

ENVIRONMENTAL PRODUCT DECLARATION

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

CityMood

BSP672/673

Signify N.V.



EPD HUB

Publishing date 2024-02-14

The Signify logo, consisting of a green circular icon with a stylized 'S' inside, followed by the word 'Signify' in a green sans-serif font.

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: <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	CityMood
Additional labels	BSP672 LED50/730 PCC II DM50 G1 CRN3 BK
Product reference	910771136404
Place of production	Spain
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of 4600 lumens over 100000 hours
Declared unit mass	10.2 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2.17E+02
GWP-total, A1-A3 (kgCO ₂ e)	2.16E+02
Secondary material, inputs (%)	10.6
Secondary material, outputs (%)	55.5
Total energy use, A1-A3 (kWh)	670.0
Total water use, A1-A3 (m ³ e)	1.12E+00

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

CityMood draws its inspiration from the street lamps of the early 20th century, which combined a conical bowl with a suspended canopy. CityMood preserves your city heritage by keeping the distinctive design characteristics of these iconic luminaires. CityMood integrates smoothly into existing infrastructures, poles, and brackets, and reduces energy costs without sacrificing safety, performance, or quality of light. The LEDGINE - O comes as a standard feature, with light output ranging from 900 lm to 16200 lm, a choice of more than 30 optics and distributions, and a range of CCTs and CRIs. Designed for mounting heights of 4 m to 8 m, CityMood is ideal for a wide range of outdoor lighting applications in both contemporary and historical environments. Future-proof and ready to participate in smart city ecosystems, CityMood helps you make progress toward your sustainability goals, wherever you happen to be in your digitalization journey. CityMood is available with one or two Zhaga-D4i (ZD4i) system-ready (SR) sockets and is therefore ready to pair with advanced lighting management systems such as Interact, or with sensors such as the Outdoor Sensor Bundle (OSB). Every CityMood luminaire is uniquely identifiable via the Signify Service tag app. Simply scan a QR code placed inside the mast door or directly on the luminaire to instantly access the luminaire configuration. Service tag makes maintenance and programming operations faster and

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easier, and enables you to create a digital library of lighting assets and spare parts. Toolless opening versions provide direct access to the gear and light engine.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	80.12	APAC , EU
Minerals	0	Not applicable
Fossil materials	19.88	APAC , EU
Bio-based materials	0	Not applicable

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.259

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Product
Mass per declared unit	10.2 kg
Functional unit	1 unit of 4600 lumens over 100000 hours
Reference service life	100000 hours

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MNR	MNR	MNR	MNR	MNR	x	MNR	MNR	x	x	x			x
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

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

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

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

TRANSPORT AND INSTALLATION (A4-A5)

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

PRODUCT USE AND MAINTENANCE (B1-B7)

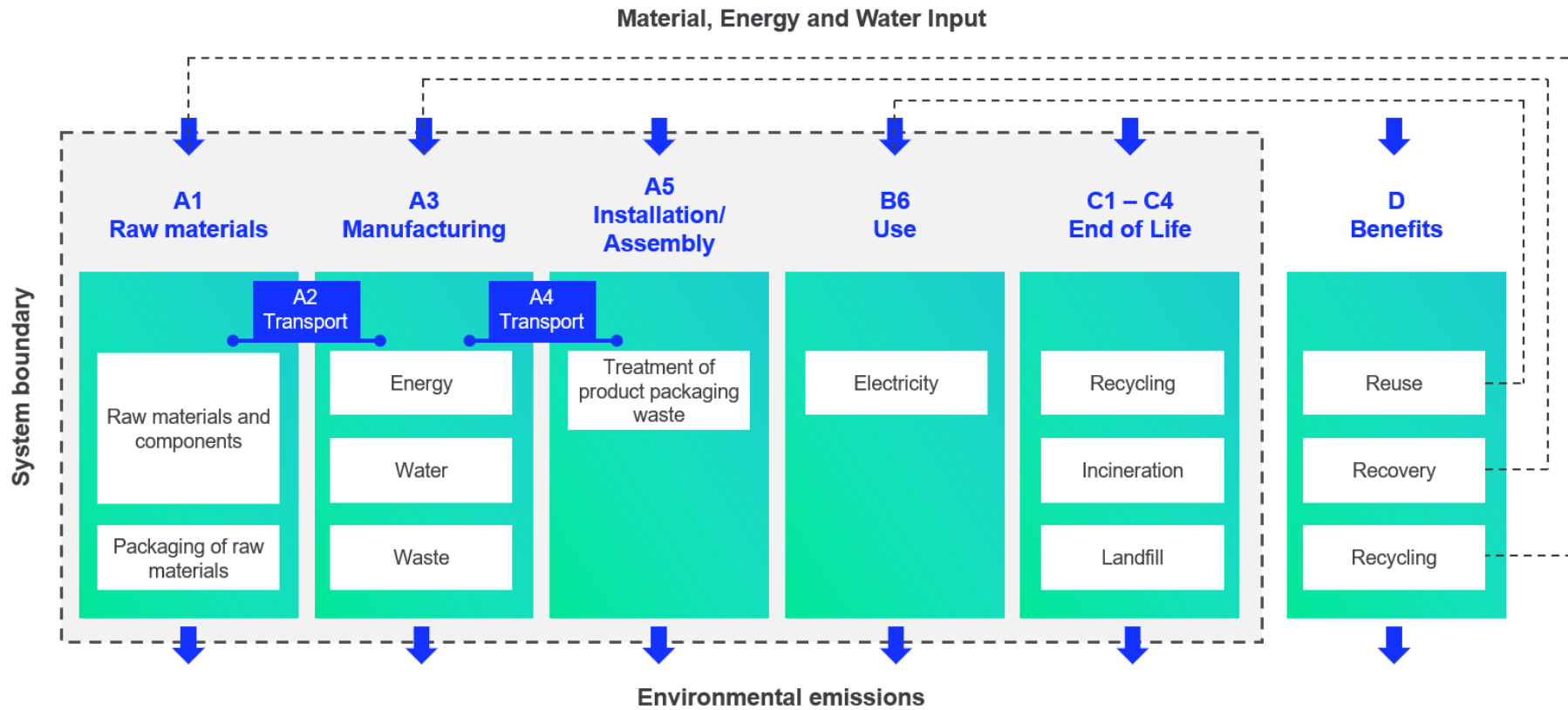
During the use phase, the product consumes electricity from Europe's electricity grid mix (B6). The total power consumption of the reference product is calculated as follows: Wattage x Reference lifetime = kWh consumed throughout the entire use phase B6.

PRODUCT END OF LIFE (C1-C4, D)

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

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

SYSTEM BOUNDARY



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

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

ALLOCATION, ESTIMATES AND ASSUMPTIONS

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

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

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

AVERAGES AND VARIABILITY

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

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

LCA SOFTWARE AND BIBLIOGRAPHY

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

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	2.14E+02	2.04E+00	1.08E-01	2.16E+02	2.04E+00	9.62E-01	MNR	MNR	MNR	MNR	MNR	2.25E+03	MNR	MNR	1.45E-01	1.81E+00	9.73E-01	-1.01E+02
GWP – fossil	kg CO ₂ e	2.14E+02	2.04E+00	1.04E+00	2.17E+02	2.04E+00	2.55E-02	MNR	MNR	MNR	MNR	MNR	2.25E+03	MNR	MNR	1.45E-01	1.81E+00	9.73E-01	-1.01E+02
GWP – biogenic	kg CO ₂ e	4.02E-01	0.00E+00	-9.36E-01	-5.34E-01	0.00E+00	9.36E-01	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	-2.20E-02
GWP – LULUC	kg CO ₂ e	1.67E-01	7.67E-04	7.55E-03	1.76E-01	1.49E-03	8.82E-06	MNR	MNR	MNR	MNR	MNR	4.72E+00	MNR	MNR	5.35E-05	2.23E-04	1.28E-04	-1.21E-02
Ozone depletion pot.	kg CFC _{11e}	8.55E-06	4.67E-07	1.07E-07	9.13E-06	4.05E-07	2.47E-09	MNR	MNR	MNR	MNR	MNR	7.59E-05	MNR	MNR	3.34E-08	1.97E-08	1.43E-08	-2.77E-06
Acidification potential	mol H ⁺ e	2.29E+00	9.83E-03	4.96E-03	2.30E+00	6.64E-02	1.98E-04	MNR	MNR	MNR	MNR	MNR	1.14E+01	MNR	MNR	6.14E-04	2.11E-03	7.28E-04	-1.16E+00
EP-freshwater ²⁾	kg Pe	1.57E-02	1.65E-05	5.56E-05	1.58E-02	7.28E-06	2.61E-07	MNR	MNR	MNR	MNR	MNR	1.18E-01	MNR	MNR	1.19E-06	7.41E-06	4.76E-06	-6.89E-03
EP-marine	kg Ne	2.50E-01	2.85E-03	2.10E-03	2.55E-01	1.63E-02	8.50E-05	MNR	MNR	MNR	MNR	MNR	1.93E+00	MNR	MNR	1.83E-04	5.42E-04	9.33E-04	-1.17E-01
EP-terrestrial	mol Ne	2.84E+00	3.15E-02	1.38E-02	2.89E+00	1.82E-01	8.80E-04	MNR	MNR	MNR	MNR	MNR	2.15E+01	MNR	MNR	2.01E-03	6.02E-03	2.50E-03	-1.38E+00
POCP (“smog”) ³⁾	kg NMVOCe	8.41E-01	9.84E-03	4.98E-03	8.56E-01	4.70E-02	2.20E-04	MNR	MNR	MNR	MNR	MNR	5.81E+00	MNR	MNR	6.45E-04	1.59E-03	8.18E-04	-3.97E-01
ADP-minerals & metals ⁴⁾	kg Sbe	1.62E-02	4.74E-06	5.93E-06	1.62E-02	2.82E-06	8.02E-08	MNR	MNR	MNR	MNR	MNR	1.05E-02	MNR	MNR	3.40E-07	1.70E-05	2.97E-07	-4.79E-03
ADP-fossil resources	MJ	2.29E+03	3.05E+01	1.42E+01	2.34E+03	2.56E+01	1.96E-01	MNR	MNR	MNR	MNR	MNR	2.93E+04	MNR	MNR	2.18E+00	2.19E+00	1.40E+00	-9.88E+02
Water use ⁵⁾	m ³ e depr.	4.53E+01	1.36E-01	6.47E-01	4.61E+01	7.61E-02	4.52E-02	MNR	MNR	MNR	MNR	MNR	6.16E+02	MNR	MNR	9.75E-03	9.83E-02	9.05E-02	-8.18E+00

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

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1.40E-05	2.31E-07	9.57E-08	1.43E-05	6.35E-08	1.83E-09	MNR	MNR	MNR	MNR	MNR	8.68E-05	MNR	MNR	1.67E-08	2.50E-08	1.13E-08	-5.70E-06
Ionizing radiation ⁶⁾	kBq U235e	1.31E+01	1.45E-01	5.05E-02	1.33E+01	1.18E-01	6.94E-04	MNR	MNR	MNR	MNR	MNR	3.28E+02	MNR	MNR	1.04E-02	1.36E-02	7.21E-03	-6.03E+00

Ecotoxicity (freshwater)	CTUe	1.12E+04	2.73E+01	3.97E+01	1.13E+04	1.62E+01	1.26E+00	MNR	MNR	MNR	MNR	MNR	4.44E+04	MNR	MNR	1.96E+00	1.20E+01	6.74E+02	-3.39E+03
Human toxicity, cancer	CTUh	3.66E-07	6.88E-10	7.49E-10	3.68E-07	1.23E-09	6.42E-11	MNR	MNR	MNR	MNR	MNR	6.78E-07	MNR	MNR	4.82E-11	3.99E-10	3.85E-09	-1.99E-08
Human tox. non-cancer	CTUh	1.28E-05	2.69E-08	1.49E-08	1.28E-05	1.04E-08	2.63E-09	MNR	MNR	MNR	MNR	MNR	2.51E-05	MNR	MNR	1.94E-09	1.66E-08	2.58E-07	-4.16E-06
SQP ⁷⁾	-	6.89E+02	3.46E+01	4.20E+01	7.66E+02	3.52E+00	1.11E-01	MNR	MNR	MNR	MNR	MNR	4.75E+03	MNR	MNR	2.51E+00	3.63E+00	2.04E+00	-2.36E+02

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1.21E+02	3.41E-01	1.09E+01	1.33E+02	1.76E-01	6.15E-03	MNR	MNR	MNR	MNR	MNR	3.80E+03	MNR	MNR	2.46E-02	3.02E-01	6.14E-02	-2.05E+01
Renew. PER as material	MJ	6.69E-01	0.00E+00	8.37E+00	9.04E+00	0.00E+00	-8.37E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renew. PER	MJ	1.22E+02	3.41E-01	1.92E+01	1.42E+02	1.76E-01	-8.36E+00	MNR	MNR	MNR	MNR	MNR	3.80E+03	MNR	MNR	2.46E-02	3.02E-01	6.14E-02	-2.05E+01
Non-re. PER as energy	MJ	2.24E+03	3.05E+01	1.35E+01	2.28E+03	2.56E+01	1.96E-01	MNR	MNR	MNR	MNR	MNR	2.93E+04	MNR	MNR	2.18E+00	2.19E+00	1.40E+00	-9.89E+02
Non-re. PER as material	MJ	4.70E+01	0.00E+00	9.66E-02	4.71E+01	0.00E+00	-9.66E-02	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	-2.22E+01	-2.22E+01	0.00E+00
Total use of non-re. PER	MJ	2.28E+03	3.05E+01	1.36E+01	2.33E+03	2.56E+01	9.97E-02	MNR	MNR	MNR	MNR	MNR	2.93E+04	MNR	MNR	2.18E+00	-2.00E+01	-2.08E+01	-9.89E+02
Secondary materials	kg	1.08E+00	8.56E-03	5.40E-01	1.63E+00	1.17E-02	2.30E-04	MNR	MNR	MNR	MNR	MNR	2.70E+00	MNR	MNR	6.05E-04	2.18E-03	3.86E-03	4.27E+00
Renew. secondary fuels	MJ	3.79E-02	8.46E-05	3.83E-02	7.63E-02	3.14E-05	3.50E-06	MNR	MNR	MNR	MNR	MNR	1.87E-02	MNR	MNR	6.11E-06	1.12E-04	2.76E-05	-2.53E-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	1.10E+00	3.92E-03	1.53E-02	1.12E+00	1.63E-03	6.94E-04	MNR	MNR	MNR	MNR	MNR	1.72E+01	MNR	MNR	2.82E-04	3.38E-03	1.75E-03	-3.75E-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	3.64E+01	4.05E-02	6.33E-02	3.65E+01	3.50E-02	4.18E-03	MNR	MNR	MNR	MNR	MNR	1.89E+02	MNR	MNR	2.89E-03	1.43E-02	1.60E-01	-1.61E+01
Non-hazardous waste	kg	6.33E+02	6.59E-01	1.28E+00	6.35E+02	2.85E-01	5.44E-01	MNR	MNR	MNR	MNR	MNR	5.07E+03	MNR	MNR	4.75E-02	1.06E+00	3.69E+00	-3.29E+02
Radioactive waste	kg	5.01E-03	2.04E-04	3.05E-05	5.24E-03	1.82E-04	3.79E-07	MNR	MNR	MNR	MNR	MNR	9.03E-02	MNR	MNR	1.46E-05	8.31E-06	0.00E+00	-2.21E-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	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	5.66E+00	0.00E+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	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	5.65E-01	5.65E-01	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	1.53E+01	0.00E+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 ₂ e	2.10E+02	2.02E+00	1.07E+00	2.13E+02	2.03E+00	2.44E-02	MNR	MNR	MNR	MNR	MNR	2.20E+03	MNR	MNR	1.44E-01	1.80E+00	1.25E+00	-9.86E+01
Ozone depletion Pot.	kg CFC ₁₁ e	7.55E-06	3.70E-07	8.92E-08	8.01E-06	3.21E-07	2.14E-09	MNR	MNR	MNR	MNR	MNR	6.35E-05	MNR	MNR	2.64E-08	1.62E-08	1.16E-08	-2.35E-06
Acidification	kg SO ₂ e	1.97E+00	7.67E-03	3.73E-03	1.98E+00	5.31E-02	1.44E-04	MNR	MNR	MNR	MNR	MNR	9.54E+00	MNR	MNR	4.77E-04	1.67E-03	5.59E-04	-1.00E+00
Eutrophication	kg PO ₄ ³ e	6.23E-01	1.62E-03	2.44E-03	6.27E-01	5.92E-03	1.09E-04	MNR	MNR	MNR	MNR	MNR	4.14E+00	MNR	MNR	1.09E-04	6.40E-04	4.80E-03	-2.84E-01



POCP ("smog")	kg C ₂ H ₄ e	1.01E-01	2.85E-04	3.73E-04	1.01E-01	1.37E-03	4.40E-06	MNR	MNR	MNR	MNR	MNR	3.82E-01	MNR	MNR	1.86E-05	5.92E-05	1.04E-04	-4.79E-02
ADP-elements	kg Sbe	1.62E-02	4.59E-06	5.31E-06	1.62E-02	2.77E-06	6.32E-08	MNR	MNR	MNR	MNR	MNR	1.05E-02	MNR	MNR	3.29E-07	1.70E-05	2.69E-07	-4.77E-03
ADP-fossil	MJ	2.28E+03	3.05E+01	1.41E+01	2.33E+03	2.56E+01	1.96E-01	MNR	MNR	MNR	MNR	MNR	2.93E+04	MNR	MNR	2.18E+00	2.19E+00	1.40E+00	-9.88E+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.

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

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
BSP672/673 LED10-4S/722/722	920.0	10.1	91.1	0.328	0.328	0.246	0.246	0.18	738.0	553.5	553.5	405.0
BSP672/673 LED20-4S/722/722	1840.0	18.5	99.5	0.601	0.601	0.451	0.451	0.331	1352.2	1014.8	1014.8	744.8
BSP672/673 LED30-4S/722/722	2760.0	25.9	106.6	0.841	0.841	0.631	0.631	0.463	1892.2	1419.8	1419.8	1041.8
BSP672/673 LED40-4S/722/722	3680.0	35.4	104.0	1.149	1.149	0.862	0.862	0.632	2585.2	1939.5	1939.5	1422.0
BSP672/673 LED50-4S/722/722	4600.0	40.5	113.6	1.315	1.315	0.986	0.986	0.723	2958.8	2218.5	2218.5	1626.8
BSP672/673 LED60-4S/722/722	5520.0	49.0	112.7	1.591	1.591	1.193	1.193	0.875	3579.8	2684.2	2684.2	1968.8
BSP672/673 LED70-4S/722/722	6370.0	57.8	110.2	1.877	1.877	1.408	1.408	1.032	4223.2	3168.0	3168.0	2322.0
BSP672/673 LED80-4S/722/722	7200.0	66.7	107.9	2.166	2.166	1.624	1.624	1.191	4873.5	3654.0	3654.0	2679.8
BSP672/673 LED90-4S/722/722	8010.0	76.0	105.4	2.468	2.468	1.851	1.851	1.357	5553.0	4164.8	4164.8	3053.2
BSP672/673 LED100-4S/722/722	8800.0	86.5	101.7	2.808	2.808	2.106	2.106	1.544	6318.0	4738.5	4738.5	3474.0
BSP672/673 LED110-4S/722/722	9570.0	96.8	98.9	3.143	3.143	2.357	2.357	1.729	7071.7	5303.3	5303.3	3890.2
BSP672/673 LED120-4S/722/722	10320.0	107.4	96.1	3.487	3.487	2.615	2.615	1.918	7845.8	5883.8	5883.8	4315.5



BSP672/673 LED10-4S/727/727	920.0	8.0	115.0	0.26	0.26	0.195	0.195	0.143	585.0	438.8	438.8	321.8
BSP672/673 LED20-4S/727/727	1840.0	14.8	124.3	0.481	0.481	0.361	0.361	0.265	1082.2	812.2	812.2	596.2
BSP672/673 LED30-4S/727/727	2760.0	20.2	136.6	0.656	0.656	0.492	0.492	0.361	1476.0	1107.0	1107.0	812.2
BSP672/673 LED40-4S/727/727	3680.0	27.9	131.9	0.906	0.906	0.679	0.679	0.498	2038.5	1527.8	1527.8	1120.5
BSP672/673 LED50-4S/727/727	4600.0	35.9	128.1	1.166	1.166	0.874	0.874	0.641	2623.5	1966.5	1966.5	1442.2
BSP672/673 LED60-4S/727/727	5520.0	38.4	143.8	1.247	1.247	0.935	0.935	0.686	2805.8	2103.8	2103.8	1543.5
BSP672/673 LED70-4S/727/727	6440.0	45.7	140.9	1.484	1.484	1.113	1.113	0.816	3339.0	2504.2	2504.2	1836.0
BSP672/673 LED80-4S/727/727	7360.0	53.2	138.3	1.727	1.727	1.295	1.295	0.95	3885.8	2913.8	2913.8	2137.5
BSP672/673 LED90-4S/727/727	8280.0	60.7	136.4	1.971	1.971	1.478	1.478	1.084	4434.8	3325.5	3325.5	2439.0
BSP672/673 LED100-4S/727/727	9200.0	68.1	135.1	2.211	2.211	1.658	1.658	1.216	4974.8	3730.5	3730.5	2736.0
BSP672/673 LED110-4S/727/727	10120.0	75.5	134.0	2.451	2.451	1.838	1.838	1.348	5514.8	4135.5	4135.5	3033.0
BSP672/673 LED120-4S/727/727	10920.0	83.9	130.2	2.724	2.724	2.043	2.043	1.498	6129.0	4596.8	4596.8	3370.5
BSP672/673 LED130-4S/727/727	11700.0	91.6	127.7	2.974	2.974	2.231	2.231	1.636	6691.5	5019.8	5019.8	3681.0
BSP672/673 LED140-4S/727/727	12460.0	99.4	125.4	3.227	3.227	2.42	2.42	1.775	7260.8	5445.0	5445.0	3993.8
BSP672/673 LED150-4S/727/727	13200.0	107.2	123.1	3.481	3.481	2.611	2.611	1.915	7832.2	5874.8	5874.8	4308.8
BSP672/673 LED10-4S/730/730	920.0	7.1	129.6	0.231	0.231	0.173	0.173	0.127	519.8	389.2	389.2	285.8
BSP672/673 LED20-4S/730/730	1840.0	13.0	141.5	0.422	0.422	0.317	0.317	0.232	949.5	713.2	713.2	522.0
BSP672/673 LED30-4S/730/730	2760.0	18.3	150.8	0.594	0.594	0.446	0.446	0.327	1336.5	1003.5	1003.5	735.8
BSP672/673 LED40-4S/730/730	3680.0	24.5	150.2	0.795	0.795	0.596	0.596	0.437	1788.8	1341.0	1341.0	983.2
BSP672 LED50-4S/730 PCC II DM50 G1 CRN3 BK	4600.0	30.8	149.4	1.0	1.0	0.75	0.75	0.55	2250.0	1687.5	1687.5	1237.5
BSP672/673 LED60-4S/730/730	5520.0	34.7	159.1	1.127	1.127	0.845	0.845	0.62	2535.8	1901.2	1901.2	1395.0
BSP672/673 LED70-4S/730/730	6440.0	40.4	159.4	1.312	1.312	0.984	0.984	0.722	2952.0	2214.0	2214.0	1624.5
BSP672/673 LED80-4S/730/730	7280.0	46.2	157.6	1.5	1.5	1.125	1.125	0.825	3375.0	2531.2	2531.2	1856.2
BSP672/673 LED90-4S/730/730	8190.0	52.3	156.6	1.698	1.698	1.273	1.273	0.934	3820.5	2864.2	2864.2	2101.5



BSP672/673 LED100-4S/730/730	9000.0	58.3	154.4	1.893	1.893	1.42	1.42	1.041	4259.2	3195.0	3195.0	2342.2
BSP672/673 LED110-4S/730/730	9900.0	64.3	154.0	2.088	2.088	1.566	1.566	1.148	4698.0	3523.5	3523.5	2583.0
BSP672/673 LED120-4S/730/730	10680.0	70.6	151.3	2.292	2.292	1.719	1.719	1.261	5157.0	3867.8	3867.8	2837.2
BSP672/673 LED130-4S/730/730	11570.0	76.9	150.5	2.497	2.497	1.873	1.873	1.373	5618.2	4214.2	4214.2	3089.2
BSP672/673 LED140-4S/730/730	12320.0	84.2	146.3	2.734	2.734	2.05	2.05	1.504	6151.5	4612.5	4612.5	3384.0
BSP672/673 LED150-4S/730/730	13050.0	91.0	143.4	2.955	2.955	2.216	2.216	1.625	6648.8	4986.0	4986.0	3656.2
BSP672/673 LED160-4S/730/730	13920.0	97.9	142.2	3.179	3.179	2.384	2.384	1.748	7152.8	5364.0	5364.0	3933.0
BSP672/673 LED170-4S/730/730	14620.0	105.0	139.2	3.409	3.409	2.557	2.557	1.875	7670.2	5753.2	5753.2	4218.8
BSP672/673 LED10-4S/740/740	920.0	7.6	121.1	0.247	0.247	0.185	0.185	0.136	555.8	416.2	416.2	306.0
BSP672/673 LED20-4S/740/740	1840.0	12.4	148.4	0.403	0.403	0.302	0.302	0.222	906.8	679.5	679.5	499.5
BSP672/673 LED30-4S/740/740	2760.0	17.5	157.7	0.568	0.568	0.426	0.426	0.312	1278.0	958.5	958.5	702.0
BSP672/673 LED40-4S/740/740	3680.0	23.4	157.3	0.76	0.76	0.57	0.57	0.418	1710.0	1282.5	1282.5	940.5
BSP672/673 LED50-4S/740/740	4600.0	29.4	156.5	0.955	0.955	0.716	0.716	0.525	2148.8	1611.0	1611.0	1181.2
BSP672/673 LED60-4S/740/740	5520.0	33.2	166.3	1.078	1.078	0.808	0.808	0.593	2425.5	1818.0	1818.0	1334.2
BSP672/673 LED70-4S/740/740	6440.0	38.7	166.4	1.256	1.256	0.942	0.942	0.691	2826.0	2119.5	2119.5	1554.7
BSP672/673 LED80-4S/740/740	7280.0	44.3	164.3	1.438	1.438	1.079	1.079	0.791	3235.5	2427.8	2427.8	1779.8
BSP672/673 LED90-4S/740/740	8190.0	50.0	163.8	1.623	1.623	1.217	1.217	0.893	3651.8	2738.2	2738.2	2009.2
BSP672/673 LED100-4S/740/740	9000.0	55.8	161.3	1.812	1.812	1.359	1.359	0.997	4077.0	3057.8	3057.8	2243.2
BSP672/673 LED110-4S/740/740	9900.0	61.6	160.7	2.0	2.0	1.5	1.5	1.1	4500.0	3375.0	3375.0	2475.0
BSP672/673 LED120-4S/740/740	10800.0	67.5	160.0	2.192	2.192	1.644	1.644	1.206	4932.0	3699.0	3699.0	2713.5
BSP672/673 LED130-4S/740/740	11570.0	73.5	157.4	2.386	2.386	1.79	1.79	1.312	5368.5	4027.5	4027.5	2952.0
BSP672/673 LED140-4S/740/740	12460.0	79.5	156.7	2.581	2.581	1.936	1.936	1.42	5807.2	4356.0	4356.0	3195.0
BSP672/673 LED150-4S/740/740	13200.0	86.7	152.2	2.815	2.815	2.111	2.111	1.548	6333.8	4749.8	4749.8	3483.0
BSP672/673 LED160-4S/740/740	14080.0	93.3	150.9	3.029	3.029	2.272	2.272	1.666	6815.2	5112.0	5112.0	3748.5



BSP672/673 LED170-4S/740/740	14960.0	100.0	149.6	3.247	3.247	2.435	2.435	1.786	7305.8	5478.8	5478.8	4018.5
BSP672/673 LED180-4S/740/740	15840.0	106.7	148.5	3.464	3.464	2.598	2.598	1.905	7794.0	5845.5	5845.5	4286.2
BSP672/673 LED20-4S/827/827	1840.0	17.4	105.7	0.565	0.565	0.424	0.424	0.311	1271.2	954.0	954.0	699.8
BSP672/673 LED30-4S/827/827	2760.0	24.3	113.6	0.789	0.789	0.592	0.592	0.434	1775.2	1332.0	1332.0	976.5
BSP672/673 LED40-4S/827/827	3680.0	33.4	110.2	1.084	1.084	0.813	0.813	0.596	2439.0	1829.2	1829.2	1341.0
BSP672/673 LED50-4S/827/827	4600.0	42.5	108.2	1.38	1.38	1.035	1.035	0.759	3105.0	2328.8	2328.8	1707.8
BSP672/673 LED60-4S/827/827	5520.0	45.9	120.3	1.49	1.49	1.117	1.117	0.82	3352.5	2513.2	2513.2	1845.0
BSP672/673 LED70-4S/827/827	6370.0	54.7	116.5	1.776	1.776	1.332	1.332	0.977	3996.0	2997.0	2997.0	2198.2
BSP672/673 LED80-4S/827/827	7200.0	63.3	113.7	2.055	2.055	1.541	1.541	1.13	4623.8	3467.2	3467.2	2542.5
BSP672/673 LED90-4S/827/827	8010.0	72.0	111.2	2.338	2.338	1.754	1.754	1.286	5260.5	3946.5	3946.5	2893.5
BSP672/673 LED100-4S/827/827	8800.0	81.5	108.0	2.646	2.646	1.984	1.984	1.455	5953.5	4464.0	4464.0	3273.8
BSP672/673 LED110-4S/827/827	9460.0	90.6	104.4	2.942	2.942	2.207	2.207	1.618	6619.5	4965.8	4965.8	3640.5
BSP672/673 LED120-4S/827/827	10200.0	99.8	102.2	3.24	3.24	2.43	2.43	1.782	7290.0	5467.5	5467.5	4009.5
BSP672/673 LED130-4S/827/827	10790.0	108.9	99.1	3.536	3.536	2.652	2.652	1.945	7956.0	5967.0	5967.0	4376.2
BSP672/673 LED10-4S/830/830	920.0	7.8	117.9	0.253	0.253	0.19	0.19	0.139	569.2	427.5	427.5	312.8
BSP672/673 LED20-4S/830/830	1840.0	14.3	128.7	0.464	0.464	0.348	0.348	0.255	1044.0	783.0	783.0	573.8
BSP672/673 LED30-4S/830/830	2760.0	20.1	137.3	0.653	0.653	0.49	0.49	0.359	1469.2	1102.5	1102.5	807.8
BSP672/673 LED40-4S/830/830	3680.0	27.0	136.3	0.877	0.877	0.658	0.658	0.482	1973.2	1480.5	1480.5	1084.5
BSP672/673 LED50-4S/830/830	4600.0	34.3	134.1	1.114	1.114	0.836	0.836	0.613	2506.5	1881.0	1881.0	1379.2
BSP672/673 LED60-4S/830/830	5520.0	38.0	145.3	1.234	1.234	0.925	0.925	0.679	2776.5	2081.2	2081.2	1527.8
BSP672/673 LED70-4S/830/830	6370.0	44.4	143.5	1.442	1.442	1.081	1.081	0.793	3244.5	2432.2	2432.2	1784.2
BSP672/673 LED80-4S/830/830	7200.0	51.2	140.6	1.662	1.662	1.246	1.246	0.914	3739.5	2803.5	2803.5	2056.5
BSP672/673 LED90-4S/830/830	8100.0	57.9	139.9	1.88	1.88	1.41	1.41	1.034	4230.0	3172.5	3172.5	2326.5
BSP672/673 LED100-4S/830/830	8900.0	64.7	137.6	2.101	2.101	1.576	1.576	1.156	4727.2	3546.0	3546.0	2601.0



BSP672/673 LED110-4S/830/830	9680.0	71.8	134.8	2.331	2.331	1.748	1.748	1.282	5244.8	3933.0	3933.0	2884.5
BSP672/673 LED120-4S/830/830	10440.0	78.9	132.3	2.562	2.562	1.921	1.921	1.409	5764.5	4322.2	4322.2	3170.2
BSP672/673 LED130-4S/830/830	11310.0	87.2	129.7	2.831	2.831	2.123	2.123	1.557	6369.8	4776.8	4776.8	3503.2
BSP672/673 LED140-4S/830/830	12040.0	94.9	126.9	3.081	3.081	2.311	2.311	1.695	6932.2	5199.8	5199.8	3813.8
BSP672/673 LED150-4S/830/830	12750.0	102.8	124.0	3.338	3.338	2.503	2.503	1.836	7510.5	5631.8	5631.8	4131.0
BSP672/673 LED10-4S/840/840	920.0	7.2	127.8	0.234	0.234	0.176	0.176	0.129	526.5	396.0	396.0	290.2
BSP672/673 LED20-4S/840/840	1840.0	13.5	136.3	0.438	0.438	0.329	0.329	0.241	985.5	740.2	740.2	542.2
BSP672/673 LED30-4S/840/840	2760.0	18.4	150.0	0.597	0.597	0.448	0.448	0.328	1343.2	1008.0	1008.0	738.0
BSP672/673 LED40-4S/840/840	3680.0	25.4	144.9	0.825	0.825	0.619	0.619	0.454	1856.2	1392.8	1392.8	1021.5
BSP672/673 LED50-4S/840/840	4600.0	32.6	141.1	1.058	1.058	0.794	0.794	0.582	2380.5	1786.5	1786.5	1309.5
BSP672/673 LED60-4S/840/840	5520.0	34.9	158.2	1.133	1.133	0.85	0.85	0.623	2549.2	1912.5	1912.5	1401.8
BSP672/673 LED70-4S/840/840	6440.0	41.5	155.2	1.347	1.347	1.01	1.01	0.741	3030.8	2272.5	2272.5	1667.2
BSP672/673 LED80-4S/840/840	7360.0	48.2	152.7	1.565	1.565	1.174	1.174	0.861	3521.2	2641.5	2641.5	1937.2
BSP672/673 LED90-4S/840/840	8280.0	55.0	150.5	1.786	1.786	1.34	1.34	0.982	4018.5	3015.0	3015.0	2209.5
BSP672/673 LED100-4S/840/840	9100.0	61.7	147.5	2.003	2.003	1.502	1.502	1.102	4506.8	3379.5	3379.5	2479.5
BSP672/673 LED110-4S/840/840	10010.0	68.4	146.3	2.221	2.221	1.666	1.666	1.222	4997.2	3748.5	3748.5	2749.5
BSP672/673 LED120-4S/840/840	10800.0	75.3	143.4	2.445	2.445	1.834	1.834	1.345	5501.2	4126.5	4126.5	3026.2
BSP672/673 LED130-4S/840/840	11570.0	83.0	139.4	2.695	2.695	2.021	2.021	1.482	6063.8	4547.2	4547.2	3334.5
BSP672/673 LED140-4S/840/840	12320.0	90.2	136.6	2.929	2.929	2.197	2.197	1.611	6590.2	4943.2	4943.2	3624.8
BSP672/673 LED150-4S/840/840	13050.0	97.5	133.8	3.166	3.166	2.374	2.374	1.741	7123.5	5341.5	5341.5	3917.3
BSP672/673 LED160-4S/840/840	13760.0	104.8	131.3	3.403	3.403	2.552	2.552	1.872	7656.8	5742.0	5742.0	4212.0

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

APPENDIX (PEP ECOPASSPORT ALIGNED)

This section represents the scaling method for the **B6 module**, following the PEP EcoPassport PSR for luminaries (PSR-0014-ed2.0-EN-2023 07 13). The GWP results were scaled from a 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.

$$Scaled\ GWP = GWP_{case} * TSF$$

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
BSP672/673 LED10-4S/722/722	920.0	10.1	91.1	0.328	0.125	0.094	0.094	0.069	281.2	211.5	211.5	155.2
BSP672/673 LED20-4S/722/722	1840.0	18.5	99.5	0.601	0.114	0.086	0.086	0.063	256.5	193.5	193.5	141.8
BSP672/673 LED30-4S/722/722	2760.0	25.9	106.6	0.841	0.107	0.08	0.08	0.059	240.8	180.0	180.0	132.8
BSP672/673 LED40-4S/722/722	3680.0	35.4	104.0	1.149	0.109	0.082	0.082	0.06	245.2	184.5	184.5	135.0
BSP672/673 LED50-4S/722/722	4600.0	40.5	113.6	1.315	0.1	0.075	0.075	0.055	225.0	168.8	168.8	123.8
BSP672/673 LED60-4S/722/722	5520.0	49.0	112.7	1.591	0.1	0.075	0.075	0.055	225.0	168.8	168.8	123.8
BSP672/673 LED70-4S/722/722	6370.0	57.8	110.2	1.877	0.103	0.077	0.077	0.057	231.8	173.2	173.2	128.2
BSP672/673 LED80-4S/722/722	7200.0	66.7	107.9	2.166	0.106	0.08	0.08	0.058	238.5	180.0	180.0	130.5
BSP672/673 LED90-4S/722/722	8010.0	76.0	105.4	2.468	0.109	0.082	0.082	0.06	245.2	184.5	184.5	135.0
BSP672/673 LED100-4S/722/722	8800.0	86.5	101.7	2.808	0.112	0.084	0.084	0.062	252.0	189.0	189.0	139.5
BSP672/673 LED110-4S/722/722	9570.0	96.8	98.9	3.143	0.116	0.087	0.087	0.064	261.0	195.8	195.8	144.0
BSP672/673 LED120-4S/722/722	10320.0	107.4	96.1	3.487	0.119	0.089	0.089	0.065	267.8	200.2	200.2	146.2
BSP672/673 LED10-4S/727/727	920.0	8.0	115.0	0.26	0.099	0.074	0.074	0.054	222.8	166.5	166.5	121.5
BSP672/673 LED20-4S/727/727	1840.0	14.8	124.3	0.481	0.091	0.068	0.068	0.05	204.8	153.0	153.0	112.5
BSP672/673 LED30-4S/727/727	2760.0	20.2	136.6	0.656	0.083	0.062	0.062	0.046	186.8	139.5	139.5	103.5
BSP672/673 LED40-4S/727/727	3680.0	27.9	131.9	0.906	0.086	0.065	0.065	0.047	193.5	146.2	146.2	105.8
BSP672/673 LED50-4S/727/727	4600.0	35.9	128.1	1.166	0.089	0.067	0.067	0.049	200.2	150.8	150.8	110.2
BSP672/673 LED60-4S/727/727	5520.0	38.4	143.8	1.247	0.079	0.059	0.059	0.043	177.8	132.8	132.8	96.7
BSP672/673 LED70-4S/727/727	6440.0	45.7	140.9	1.484	0.08	0.06	0.06	0.044	180.0	135.0	135.0	99.0
BSP672/673 LED80-4S/727/727	7360.0	53.2	138.3	1.727	0.083	0.062	0.062	0.046	186.8	139.5	139.5	103.5



BSP672/673 LED90-4S/727/727	8280.0	60.7	136.4	1.971	0.083	0.062	0.062	0.046	186.8	139.5	139.5	103.5
BSP672/673 LED100-4S/727/727	9200.0	68.1	135.1	2.211	0.084	0.063	0.063	0.046	189.0	141.8	141.8	103.5
BSP672/673 LED110-4S/727/727	10120.0	75.5	134.0	2.451	0.086	0.065	0.065	0.047	193.5	146.2	146.2	105.8
BSP672/673 LED120-4S/727/727	10920.0	83.9	130.2	2.724	0.087	0.065	0.065	0.048	195.8	146.2	146.2	108.0
BSP672/673 LED130-4S/727/727	11700.0	91.6	127.7	2.974	0.089	0.067	0.067	0.049	200.2	150.8	150.8	110.2
BSP672/673 LED140-4S/727/727	12460.0	99.4	125.4	3.227	0.09	0.068	0.068	0.05	202.5	153.0	153.0	112.5
BSP672/673 LED150-4S/727/727	13200.0	107.2	123.1	3.481	0.094	0.071	0.071	0.052	211.5	159.7	159.7	117.0
BSP672/673 LED10-4S/730/730	920.0	7.1	129.6	0.231	0.088	0.066	0.066	0.048	198.0	148.5	148.5	108.0
BSP672/673 LED20-4S/730/730	1840.0	13.0	141.5	0.422	0.08	0.06	0.06	0.044	180.0	135.0	135.0	99.0
BSP672/673 LED30-4S/730/730	2760.0	18.3	150.8	0.594	0.075	0.056	0.056	0.041	168.8	126.0	126.0	92.2
BSP672/673 LED40-4S/730/730	3680.0	24.5	150.2	0.795	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672 LED50-4S/730 PCC II DM50 G1 CRN3 BK	4600.0	30.8	149.4	1.0	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672/673 LED60-4S/730/730	5520.0	34.7	159.1	1.127	0.071	0.053	0.053	0.039	159.7	119.2	119.2	87.8
BSP672/673 LED70-4S/730/730	6440.0	40.4	159.4	1.312	0.071	0.053	0.053	0.039	159.7	119.2	119.2	87.8
BSP672/673 LED80-4S/730/730	7280.0	46.2	157.6	1.5	0.072	0.054	0.054	0.04	162.0	121.5	121.5	90.0
BSP672/673 LED90-4S/730/730	8190.0	52.3	156.6	1.698	0.073	0.055	0.055	0.04	164.2	123.8	123.8	90.0
BSP672/673 LED100-4S/730/730	9000.0	58.3	154.4	1.893	0.074	0.055	0.055	0.041	166.5	123.8	123.8	92.2
BSP672/673 LED110-4S/730/730	9900.0	64.3	154.0	2.088	0.073	0.055	0.055	0.04	164.2	123.8	123.8	90.0
BSP672/673 LED120-4S/730/730	10680.0	70.6	151.3	2.292	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672/673 LED130-4S/730/730	11570.0	76.9	150.5	2.497	0.075	0.056	0.056	0.041	168.8	126.0	126.0	92.2
BSP672/673 LED140-4S/730/730	12320.0	84.2	146.3	2.734	0.077	0.058	0.058	0.042	173.2	130.5	130.5	94.5
BSP672/673 LED150-4S/730/730	13050.0	91.0	143.4	2.955	0.08	0.06	0.06	0.044	180.0	135.0	135.0	99.0
BSP672/673 LED160-4S/730/730	13920.0	97.9	142.2	3.179	0.079	0.059	0.059	0.043	177.8	132.8	132.8	96.7
BSP672/673 LED170-4S/730/730	14620.0	105.0	139.2	3.409	0.082	0.061	0.061	0.045	184.5	137.2	137.2	101.2



BSP672/673 LED10-4S/740/740	920.0	7.6	121.1	0.247	0.094	0.071	0.071	0.052	211.5	159.7	159.7	117.0
BSP672/673 LED20-4S/740/740	1840.0	12.4	148.4	0.403	0.077	0.058	0.058	0.042	173.2	130.5	130.5	94.5
BSP672/673 LED30-4S/740/740	2760.0	17.5	157.7	0.568	0.072	0.054	0.054	0.04	162.0	121.5	121.5	90.0
BSP672/673 LED40-4S/740/740	3680.0	23.4	157.3	0.76	0.072	0.054	0.054	0.04	162.0	121.5	121.5	90.0
BSP672/673 LED50-4S/740/740	4600.0	29.4	156.5	0.955	0.073	0.055	0.055	0.04	164.2	123.8	123.8	90.0
BSP672/673 LED60-4S/740/740	5520.0	33.2	166.3	1.078	0.068	0.051	0.051	0.037	153.0	114.7	114.7	83.2
BSP672/673 LED70-4S/740/740	6440.0	38.7	166.4	1.256	0.068	0.051	0.051	0.037	153.0	114.7	114.7	83.2
BSP672/673 LED80-4S/740/740	7280.0	44.3	164.3	1.438	0.069	0.052	0.052	0.038	155.2	117.0	117.0	85.5
BSP672/673 LED90-4S/740/740	8190.0	50.0	163.8	1.623	0.07	0.053	0.053	0.039	157.5	119.2	119.2	87.8
BSP672/673 LED100-4S/740/740	9000.0	55.8	161.3	1.812	0.071	0.053	0.053	0.039	159.7	119.2	119.2	87.8
BSP672/673 LED110-4S/740/740	9900.0	61.6	160.7	2.0	0.07	0.053	0.053	0.039	157.5	119.2	119.2	87.8
BSP672/673 LED120-4S/740/740	10800.0	67.5	160.0	2.192	0.07	0.053	0.053	0.039	157.5	119.2	119.2	87.8
BSP672/673 LED130-4S/740/740	11570.0	73.5	157.4	2.386	0.072	0.054	0.054	0.04	162.0	121.5	121.5	90.0
BSP672/673 LED140-4S/740/740	12460.0	79.5	156.7	2.581	0.072	0.054	0.054	0.04	162.0	121.5	121.5	90.0
BSP672/673 LED150-4S/740/740	13200.0	86.7	152.2	2.815	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672/673 LED160-4S/740/740	14080.0	93.3	150.9	3.029	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672/673 LED170-4S/740/740	14960.0	100.0	149.6	3.247	0.075	0.056	0.056	0.041	168.8	126.0	126.0	92.2
BSP672/673 LED180-4S/740/740	15840.0	106.7	148.5	3.464	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672/673 LED20-4S/827/827	1840.0	17.4	105.7	0.565	0.107	0.08	0.08	0.059	240.8	180.0	180.0	132.8
BSP672/673 LED30-4S/827/827	2760.0	24.3	113.6	0.789	0.1	0.075	0.075	0.055	225.0	168.8	168.8	123.8
BSP672/673 LED40-4S/827/827	3680.0	33.4	110.2	1.084	0.103	0.077	0.077	0.057	231.8	173.2	173.2	128.2
BSP672/673 LED50-4S/827/827	4600.0	42.5	108.2	1.38	0.105	0.079	0.079	0.058	236.2	177.8	177.8	130.5
BSP672/673 LED60-4S/827/827	5520.0	45.9	120.3	1.49	0.094	0.071	0.071	0.052	211.5	159.7	159.7	117.0
BSP672/673 LED70-4S/827/827	6370.0	54.7	116.5	1.776	0.098	0.074	0.074	0.054	220.5	166.5	166.5	121.5



BSP672/673 LED80-4S/827/827	7200.0	63.3	113.7	2.055	0.101	0.076	0.076	0.056	227.3	171.0	171.0	126.0
BSP672/673 LED90-4S/827/827	8010.0	72.0	111.2	2.338	0.103	0.077	0.077	0.057	231.8	173.2	173.2	128.2
BSP672/673 LED100-4S/827/827	8800.0	81.5	108.0	2.646	0.106	0.08	0.08	0.058	238.5	180.0	180.0	130.5
BSP672/673 LED110-4S/827/827	9460.0	90.6	104.4	2.942	0.109	0.082	0.082	0.06	245.2	184.5	184.5	135.0
BSP672/673 LED120-4S/827/827	10200.0	99.8	102.2	3.24	0.11	0.083	0.083	0.061	247.5	186.8	186.8	137.2
BSP672/673 LED130-4S/827/827	10790.0	108.9	99.1	3.536	0.113	0.085	0.085	0.062	254.2	191.2	191.2	139.5
BSP672/673 LED10-4S/830/830	920.0	7.8	117.9	0.253	0.096	0.072	0.072	0.053	216.0	162.0	162.0	119.2
BSP672/673 LED20-4S/830/830	1840.0	14.3	128.7	0.464	0.088	0.066	0.066	0.048	198.0	148.5	148.5	108.0
BSP672/673 LED30-4S/830/830	2760.0	20.1	137.3	0.653	0.083	0.062	0.062	0.046	186.8	139.5	139.5	103.5
BSP672/673 LED40-4S/830/830	3680.0	27.0	136.3	0.877	0.083	0.062	0.062	0.046	186.8	139.5	139.5	103.5
BSP672/673 LED50-4S/830/830	4600.0	34.3	134.1	1.114	0.085	0.064	0.064	0.047	191.2	144.0	144.0	105.8
BSP672/673 LED60-4S/830/830	5520.0	38.0	145.3	1.234	0.078	0.058	0.058	0.043	175.5	130.5	130.5	96.7
BSP672/673 LED70-4S/830/830	6370.0	44.4	143.5	1.442	0.079	0.059	0.059	0.043	177.8	132.8	132.8	96.7
BSP672/673 LED80-4S/830/830	7200.0	51.2	140.6	1.662	0.081	0.061	0.061	0.045	182.2	137.2	137.2	101.2
BSP672/673 LED90-4S/830/830	8100.0	57.9	139.9	1.88	0.081	0.061	0.061	0.045	182.2	137.2	137.2	101.2
BSP672/673 LED100-4S/830/830	8900.0	64.7	137.6	2.101	0.082	0.061	0.061	0.045	184.5	137.2	137.2	101.2
BSP672/673 LED110-4S/830/830	9680.0	71.8	134.8	2.331	0.084	0.063	0.063	0.046	189.0	141.8	141.8	103.5
BSP672/673 LED120-4S/830/830	10440.0	78.9	132.3	2.562	0.087	0.065	0.065	0.048	195.8	146.2	146.2	108.0
BSP672/673 LED130-4S/830/830	11310.0	87.2	129.7	2.831	0.088	0.066	0.066	0.048	198.0	148.5	148.5	108.0
BSP672/673 LED140-4S/830/830	12040.0	94.9	126.9	3.081	0.089	0.067	0.067	0.049	200.2	150.8	150.8	110.2
BSP672/673 LED150-4S/830/830	12750.0	102.8	124.0	3.338	0.09	0.068	0.068	0.05	202.5	153.0	153.0	112.5
BSP672/673 LED10-4S/840/840	920.0	7.2	127.8	0.234	0.089	0.067	0.067	0.049	200.2	150.8	150.8	110.2
BSP672/673 LED20-4S/840/840	1840.0	13.5	136.3	0.438	0.083	0.062	0.062	0.046	186.8	139.5	139.5	103.5
BSP672/673 LED30-4S/840/840	2760.0	18.4	150.0	0.597	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5

BSP672/673 LED40-4S/840/840	3680.0	25.4	144.9	0.825	0.078	0.058	0.058	0.043	175.5	130.5	130.5	96.7
BSP672/673 LED50-4S/840/840	4600.0	32.6	141.1	1.058	0.08	0.06	0.06	0.044	180.0	135.0	135.0	99.0
BSP672/673 LED60-4S/840/840	5520.0	34.9	158.2	1.133	0.071	0.053	0.053	0.039	159.7	119.2	119.2	87.8
BSP672/673 LED70-4S/840/840	6440.0	41.5	155.2	1.347	0.073	0.055	0.055	0.04	164.2	123.8	123.8	90.0
BSP672/673 LED80-4S/840/840	7360.0	48.2	152.7	1.565	0.075	0.056	0.056	0.041	168.8	126.0	126.0	92.2
BSP672/673 LED90-4S/840/840	8280.0	55.0	150.5	1.786	0.075	0.056	0.056	0.041	168.8	126.0	126.0	92.2
BSP672/673 LED100-4S/840/840	9100.0	61.7	147.5	2.003	0.076	0.057	0.057	0.042	171.0	128.2	128.2	94.5
BSP672/673 LED110-4S/840/840	10010.0	68.4	146.3	2.221	0.078	0.058	0.058	0.043	175.5	130.5	130.5	96.7
BSP672/673 LED120-4S/840/840	10800.0	75.3	143.4	2.445	0.078	0.058	0.058	0.043	175.5	130.5	130.5	96.7
BSP672/673 LED130-4S/840/840	11570.0	83.0	139.4	2.695	0.081	0.061	0.061	0.045	182.2	137.2	137.2	101.2
BSP672/673 LED140-4S/840/840	12320.0	90.2	136.6	2.929	0.082	0.061	0.061	0.045	184.5	137.2	137.2	101.2
BSP672/673 LED150-4S/840/840	13050.0	97.5	133.8	3.166	0.085	0.064	0.064	0.047	191.2	144.0	144.0	105.8
BSP672/673 LED160-4S/840/840	13760.0	104.8	131.3	3.403	0.085	0.064	0.064	0.047	191.2	144.0	144.0	105.8

* 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)" are valid.

