


## Product Environmental Profile

Independent verification of the declaration and data in compliance with ISO 14025: 2006



## SYLVANIA Panel family

Registration number	SYLV-00006-V01.01-EN	Drafting rules	PCR-ed4-EN-2021 09 06
Verifier accreditation number	VH44	Supplemented by	PSR-0014-ed2.0-EN-2023 07 13
Date of issue	12-2024	Information and reference documents	<a href="http://www.pep-ecopasspost.org">www.pep-ecopasspost.org</a>
PEP prepared by	Feilo Sylvania International Group Kft.	Validity period	5 years
Independent verification of the declaration and data in compliance with ISO 14025: 2006			
Internal		External	X
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500:2022			
The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"			

# 1 General information

## 1.1 Product information

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The SYLVANIA Panel family is a range of recessed LED panels for general indoor lighting applications such as breakout areas, offices and meeting rooms. They can be also installed surface mounted and suspended with the available accessories.

Exceptional slim size of 25mm maximum total height - with driver 55 mm (SylSmart Connected and 1200x600 35mm maximum total height - with driver 65 mm).

This range includes Standard, High Efficacy, UGR19, IP44(front side), IP54(front side), CRI90, DALI, SylSmart Connected and SylSmart Standalone enabled luminaires in different sizes: 600x600mm, 625x625mm, 1200x300mm and 1200x600mm. SylSmart Standalone is a wireless, plug and play lighting control solution which delivers maximum control and minimum installation for smaller applications. SylSmart Connected system provides a ready-to-go, open standard, luminaire integrated control system for floor-wide and building-wide use.

The optical design ensures a consistent uniform output throughout the luminaire creating a comforting, and soft light source.

Applicable product standards:

- EN 60598-1
- EN 61347-1, 2-13
- EN 62717
- EN 55015
- EN 61547
- EN 61000-3-2

The function of SYLVANIA Panel family with its different series are described below:

- Non dimmable: without dimming function, only power on and off.
- DALI(DA): Work with DALI lighting management system.
- SSC: Work with Sylvania wireless lighting management system Sylsmart Standalone (Casambi).
- SSA: Work with PIR sensor which can be connected to Sylvania wireless lighting management system Sylsmart Connect (Silvair).

The SYLVANIA Panel reference product: 0042683 START Panel UGR19 600x600 4000Lm 840 SSA03 belongs to SSA series, which can be connected to Sylvania wireless lighting management system Sylsmart Connect (Silvair).

Its technological key data are listed below:

**Table 1: Key technological data for reference product**

Information	Unit	
Product code	-	0042683
Light source	-	LED
Power supply	-	External
Colour temperature	K	4000
Protection index for water and dust (IP)	-	40 (from the front)
Impact resistance index (IK)	-	03
Nominal operating voltage	V	220-240V
Declared lifetime of the luminaire (L70B50)	h	100,000
Declaration lifetime of the light source	h	100,000
Useful output flux	lm	4,000
Total power consumption	W	36
Luminous efficiency	lm/W	111
Length	mm	595
Width/Diameter	mm	595
Height	mm	33 (without driver)
Reference use scenario	-	Office

SYLVANIA Panel family are declared with below lifetime:

- L70B50 100,000hrs
- L80B20 71,000hrs
- L90B10 33,000hrs

L70B50 100,000hrs is used for LCA analysis.

In the reference scenario, the product has 2,500 annual operating hours, resulting in a lifetime of 40 years.

## 1.2 Overview

The general information used for the PEP are listed below:

**Table 2: Basic PEP information**

Information	
Functional unit	Provide lighting that delivers an outgoing artificial luminous flux of 1,000 lumens during a reference lifetime of 35,000 hours
Reference flow / declared unit*	0.0875 pieces of product
Life cycle stages cover (according to EN15804+A2)	Cradle-to-grave and Module D
Product category according to PSR	Luminaires
Product family name	Sylvania Panel
All products of the product family	Table 16 - Table 19
Extrapolation rules	Table 20 - Table 23

\* The reference flow is calculated as:  $(1,000/\text{outgoing luminous flux of the analyzed product in lumens}) \times (35,000/\text{declared product lifetime of the analyzed product in hours})$

Consequently, the reference flow of the following product corresponds to:

$$(1,000/4,000) \times (35,000/100,000) = 0.0875$$

## 2 Constituent materials

### 2.1 Overview

**Table 3: Product composition**

Information	Weight/product [kg]	Weight/functional unit [kg]	Share [%]
Total weight	3.018	2.64E-01	100.0
Product	2.093	1.83E-01	69.4
Packaging	0.925	8.09E-02	30.6
Additional equipment	0.000	0.00E+00	0.0

### 2.2 Product

**Table 4: Material composition - product**

Information	Weight/product [kg]	Weight/functional unit [kg]	Share [%]
Total weight	2.093	1.83E-01	100.0
Metals	1.006	8.80E-02	48.1
- Steel	0.840	7.35E-02	40.1
- Aluminium	0.166	1.45E-02	7.9
Plastics	0.741	6.48E-02	35.4
- Polystyrene (PS)	0.626	5.48E-02	29.9
- Polycarbonate (PC)	0.072	6.30E-03	3.4
- Polyethylene terephthalate (PET)	0.043	3.76E-03	2.1
Electronics (incl. wires)	0.306	2.68E-02	14.6
Other	0.040	3.50E-03	1.9

*Note: The total weight in this table differs slightly from the total weight of the product due to rounding inaccuracies.*

### 2.3 Packaging

**Table 5: Material composition - packaging**

Information	Weight/product [kg]	Weight/functional unit [kg]	Share [%]
Total weight	0.925	8.10E-02	100
Paper/cardboard	0.845	7.40E-02	91.3
Plastics	0.063	5.50E-03	6.8
Wood	0.017	1.52E-03	1.9

## 3 Information on life cycle stages

### 3.1 Manufacturing (A1-A3)

For the manufacturer sources all parts come from international/Chinese suppliers. The final products are assembled and tested in Chinese factory, under the quality control of Feilo Sylvania International Group Kft.. The manufacturer is certified to ISO 9001:2015 / 14001:2015.

Metal scrap, plastic, waste carton/paper of the production side are mostly recycled, whereas electronic scrap is 100% incinerated with energy recovery and the waste wood is mostly considered as landfilling.

The energy model used in manufacturing is based on Sphera's Managed LCA Content V.10:

CN: Electricity grid mix Sphera.

### 3.2 Distribution (A4)

The main market of the product is Europe. For this reason, an intercontinental and intracontinental transport, following PEP-PCR-ed4-EN-2021 09 06, is considered in the following model:

- 19,000km by ship (heavy fuel oil driven, container ship, 5,000 to 200,000 dwt payload capacity, deep sea)
- 1,500 km by truck (diesel driven, EURO 0-6, >27t payload).

The background assumptions for the transportation are listed below.

**Table 6: Background information distribution**

Information	Unit	Truck	Ship
Fuel type	-	Diesel	Heavy fuel oil
Fuel consumption	l/(kg*km)	1.99E-05	3.24E-06
Total distance	km	1,500	19,000
Capacity utilisation (including empty runs)	%	85	70

### 3.3 Installation (A5)

The product can easily be installed with hooks or poles and tool free. No energy or material input is required. Packaging waste is treated with reference to chapter 3.5.3.1 of PSR-0014-ed 2.0-2023 07 13.

### 3.4 Use stage (B1-B7)

During the use stage of the product, the product only consumes electricity (B6). The main market of the product is Europe. Consequently, an average European electricity grid mix (database from Sphera) has been used for the calculations.

According to [PSR-0014-ED2.0-EN- 2023 07 13](#), the theoretical energy saving coefficients for the 4 series of SYLVANIA Panel family are:

- Non dimmable: 1
- DALI (DA): 0.5
- SSC: 0.5
- SSA : 0.5

The SYLVANIA Panel reference product 0042683 is grouped under SSA series and is capable to be connected to Sylvania wireless lighting management system Sylsmart Connect (Silvair). Therefore, the theoretical energy saving coefficient of the reference product is 0.5.

The declared power consumption of the reference product is 36 Watts, and its declared lifetime is 100,000 hours (L70B50).

Combining all these information leads to a total power consumption of 1,800 kWh.

All other modules of the life cycle stage have no environmental impact, since the product has no direct emissions (B1), no maintenance (B2), and no replacement (B4), repair (B3), or refurbishment activities (B5). The luminaire does not consume water during its use (B7).

## 3.5 End of life (C1-C4)

The product falls under the Waste from Electrical and Electronic Equipment (WEEE) directive 2012/19/EU subcategory 4. EOL model is created referring to chapter 2.5.6 End of life treatment scenarios of PCR-ed4-EN-2021 09 06.

The share of the different end of life pathways are shown below. For the energy consumed in material separation, an average European grid mix has been used.

- Incineration with energy recovery: 32.8%
- Landfilling: 29.6%
- Recycling: 37.7%

## 3.6 Benefits and loads beyond the system boundaries (D)

Incineration with energy recovery and recycling of the product, packaging, and manufacturing scrap generate environmental benefits by avoiding the production of primary materials or energy. The amount and type of waste streams are listed in Table 7.

**Table 7: Material flows for Benefits and loads beyond the system boundaries.**

Information	Unit	Value
Total weight going into reuse	kg/functional unit	0.000
Total weight going into recycling	kg/functional unit	0.142
- Share from product	%	48.5
- Share from packaging	%	44.9
- Share from upstream packaging & manufacturing scrap	%	6.7
Total weight going into incineration with energy recovery	kg/functional unit	0.072
- Share from product	%	83.9
- Share from packaging	%	12.8
- Share from upstream packaging & manufacturing scrap	%	3.2

## 4 Environmental impacts

### 4.1 Introduction

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The following table summarizes the key information for the calculation of the environmental impacts:

**Table 8: Basic information LCA model**

Information	Value
Used LCA software	LCA for Experts 10
Used LCI database	LCA Managed Content Professional 2024.1 + Extension 2024.1
PCR version	PEP-PCR-ED4-EN-2021 09 06
PSR version	PEP-PSR-0014-ED2.0-EN-2023 07 13
Functional unit	Provide lighting that delivers an outgoing artificial luminous flux of 1,000 lumens during a reference lifetime of 35,000 hours

### 4.2 Results per functional unit

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The following results of the environmental declaration have been developed by considering an outgoing artificial luminous flux of 1,000 lumens over a reference lifetime of 35,000 hours. The results refer to the core environmental impact indicators and indicators describing resource use, waste categories, and output flows according to EN 15804:2012+A2:2019.

Table 9: Results core environmental impact indicators per functional unit (0.264 kg product incl. packaging)

	Total (Excl.D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use							End of life				Benefits and loads beyond the system boundaries
		A1	A2				A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	
GWP - total [kg CO2 eq.]	5.28 E+01	1.22 E+00	1.04 E-03	1.63 E-02	8.73 E-02	6.62 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.13 E+01	0.00 E+00	0.00 E+00	1.16 E-02	1.33 E-01	3.30 E-03	-2.12 E-01
GWP - fossil [kg CO2 eq.]	5.25 E+01	1.36 E+00	9.84 E-04	1.26 E-02	8.57 E-02	3.91 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.08 E+01	0.00 E+00	0.00 E+00	1.10 E-02	1.32 E-01	3.29 E-03	-3.00 E-01
GWP - biogenic [kg CO2 eq.]	3.32 E-01	-1.42 E-01	4.63 E-05	3.64 E-03	1.35 E-03	2.70 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	4.42 E-01	0.00 E+00	0.00 E+00	5.17 E-04	2.25 E-04	6.45 E-06	8.75 E-02
GWP - luluc [kg CO2 eq.]	6.95 E-03	9.31 E-04	9.08 E-06	7.96 E-06	2.54 E-04	1.07 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.52 E-03	0.00 E+00	0.00 E+00	1.01 E-04	1.02 E-05	2.89 E-06	-1.53 E-04
ODP [kg CFC-11 eq.]	9.44 E-10	5.71 E-12	1.28 E-16	5.70 E-14	7.54 E-15	7.22 E-14	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	9.38 E-10	0.00 E+00	0.00 E+00	1.42 E-15	4.65 E-13	5.52 E-15	-9.19 E-13
AP [Mole of H+ eq.]	1.17 E-01	7.16 E-03	1.14 E-06	4.51 E-05	1.17 E-03	6.37 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.09 E-01	0.00 E+00	0.00 E+00	1.28 E-05	1.01 E-04	1.01 E-05	-8.67 E-04
EP - freshwater [kg P eq.]	2.00 E-04	8.79 E-06	3.58 E-09	1.71 E-08	1.13 E-07	1.02 E-06	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.90 E-04	0.00 E+00	0.00 E+00	4.00 E-08	1.10 E-07	4.65 E-07	-1.30 E-06
EP - marine [kg N eq.]	2.77 E-02	1.19 E-03	3.83 E-07	9.93 E-06	4.91 E-04	2.89 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.60 E-02	0.00 E+00	0.00 E+00	4.28 E-06	3.10 E-05	2.38 E-06	-2.15 E-04
EP - terrestrial [Mole of N eq.]	2.90 E-01	1.26 E-02	4.51 E-06	1.07 E-04	5.38 E-03	2.66 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.71 E-01	0.00 E+00	0.00 E+00	5.04 E-05	3.70 E-04	2.61 E-05	-2.26 E-03
POCP [kg NMVOC eq.]	7.44 E-02	3.63 E-03	9.96 E-07	3.04 E-05	1.34 E-03	6.13 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.93 E-02	0.00 E+00	0.00 E+00	1.11 E-05	1.01 E-04	7.51 E-06	-6.54 E-04
ADPE [kg Sb eq.]	2.22 E-04	2.14 E-04	6.50 E-11	5.43 E-10	2.35 E-09	1.46 E-08	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	7.86 E-06	0.00 E+00	0.00 E+00	7.26 E-10	4.88 E-09	8.82 E-11	-2.12 E-08
ADPF [MJ]	1.09 E+03	2.12 E+01	1.34 E-02	1.35 E-01	1.08 E+00	4.81 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.07 E+03	0.00 E+00	0.00 E+00	1.49 E-01	4.22 E-01	4.93 E-02	-3.58 E+00
WDP [m³ world equiv.]	1.16 E+01	2.82 E-01	1.18 E-05	3.96 E-03	4.28 E-04	2.74 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.13 E+01	0.00 E+00	0.00 E+00	1.32 E-04	1.26 E-02	-4.61 E-05	-1.34 E-02

Table 10: Results indicators describing resource use, waste categories, and output flows per functional unit (0.264 kg product incl. packaging)

	Total (Excl.D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use							End of life				Benefits and loads beyond the system boundaries
		A1	A2				A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	
PERE [MJ]	6.45 E+02	5.24 E+00	9.72 E-04	3.63 E-02	3.02 E-02	1.30 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.39 E+02	0.00 E+00	0.00 E+00	1.09 E-02	2.33 E-01	4.44 E-03	-2.53 E+00
PERM [MJ]	1.36 E+00	1.36 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
PERT [MJ]	6.46 E+02	6.60 E+00	9.72 E-04	3.63 E-02	3.02 E-02	1.30 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.39 E+02	0.00 E+00	0.00 E+00	1.09 E-02	2.33 E-01	4.44 E-03	-2.53 E+00
PENRE [MJ]	1.09 E+03	1.89 E+01	1.34 E-02	1.35 E-01	1.09 E+00	4.81 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.07 E+03	0.00 E+00	0.00 E+00	1.50 E-01	4.22 E-01	4.93 E-02	-2.23 E+00
PENRM [MJ]	2.42 E+00	2.42 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-1.36 E+00
PENRT [MJ]	1.09 E+03	2.13 E+01	1.34 E-02	1.35 E-01	1.09 E+00	4.81 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.07 E+03	0.00 E+00	0.00 E+00	1.50 E-01	4.22 E-01	4.93 E-02	-3.59 E+00
SM [kg]	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-7.37 E-02
RSF [MJ]	2.91 E-02	0.00 E+00	7.17 E-04	0.00 E+00	2.00 E-02	3.54 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	8.01 E-03	0.00 E+00	0.00 E+00	0.00 E+00
NRSF [MJ]	1.11 E+00	0.00 E+00	1.13 E-02	0.00 E+00	9.65 E-01	5.56 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.26 E-01	0.00 E+00	0.00 E+00	0.00 E+00
FW [m3]	5.29 E-01	1.23 E-02	1.06 E-06	9.44 E-05	3.38 E-05	5.37 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.16 E-01	0.00 E+00	0.00 E+00	1.19 E-05	4.00 E-04	5.05 E-07	-1.28 E-03
HWD [kg]	6.55 E-08	1.32 E-07	4.15 E-14	-6.14 E-12	3.40 E-12	1.65 E-08	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-8.37 E-08	0.00 E+00	0.00 E+00	4.64 E-13	1.38 E-10	4.13 E-12	-1.27 E-08
NHWD [kg]	9.33 E-01	6.73 E-02	2.04 E-06	1.88 E-03	1.22 E-04	8.99 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	7.83 E-01	0.00 E+00	0.00 E+00	2.28 E-05	1.70 E-02	5.40 E-02	-2.40 E-02
RWD [kg]	1.71 E-01	5.23 E-04	2.51 E-08	3.17 E-06	1.54 E-06	1.21 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.70 E-01	0.00 E+00	0.00 E+00	2.80 E-07	2.63 E-05	5.81 E-07	-1.41 E-04
CRU [kg]	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
MFR [kg]	1.42 E-01	3.31 E-03	0.00 E+00	6.17 E-03	0.00 E+00	6.38 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.90 E-02	0.00 E+00	0.00 E+00
MER [kg]	7.15 E-02	0.00 E+00	0.00 E+00	2.32 E-03	0.00 E+00	9.16 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.00 E-02	0.00 E+00	0.00 E+00
EEE [MJ]	2.00 E-01	5.79 E-04	0.00 E+00	0.00 E+00	0.00 E+00	2.63 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.73 E-01	0.00 E+00	-2.79 E-03
EET [MJ]	4.32 E-01	1.34 E-03	0.00 E+00	0.00 E+00	0.00 E+00	4.60 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.84 E-01	0.00 E+00	-6.47 E-03
Biog. C in product [kg]	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Biog. C in packaging [kg]	0.00 E+00	-3.25 E-02	0.00 E+00	0.00 E+00	0.00 E+00	3.25 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00

Table 11: Additional environmental impact indicators per functional unit (0.264 kg product incl. packaging)

	Total (Excl.D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use							End of life				Benefits and loads beyond the system boundaries
		A1	A2				A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	
PM [Disease incidences]	1.03 E-06	8.03 E-08	8.33 E-12	6.15 E-10	3.02 E-08	5.40 E-10	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	9.13 E-07	0.00 E+00	0.00 E+00	9.30 E-11	1.26 E-09	1.01 E-10	-1.05 E-08
IRP [kBq. U235 eq.]	2.84 E+01	5.86 E-02	3.74 E-06	2.02 E-04	2.24 E-04	2.00 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.83 E+01	0.00 E+00	0.00 E+00	4.18 E-05	2.91 E-03	8.60 E-05	-2.54 E-02
ETP-fw [CTUe]	3.10 E+02	1.14 E+01	9.56 E-03	1.97 E-02	7.69 E-01	6.96 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.97 E+02	0.00 E+00	0.00 E+00	1.07 E-01	1.27 E-01	3.47 E-02	-8.97 E-01
HTP-c [CTUh]	1.89 E-08	3.15 E-09	1.94 E-13	2.64 E-12	1.46 E-11	7.04 E-12	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.57 E-08	0.00 E+00	0.00 E+00	2.17 E-12	1.24 E-11	2.05 E-12	-2.44 E-10
HTP-nc [CTUh]	2.75 E-07	2.18 E-08	8.64 E-12	5.58 E-11	5.34 E-10	3.57 E-10	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.51 E-07	0.00 E+00	0.00 E+00	9.65 E-11	7.68 E-10	1.71 E-10	-1.65 E-09
SQP [dimensionless]	4.44 E+02	2.30 E+01	5.58 E-03	1.68 E-02	1.58 E-01	6.73 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	4.20 E+02	0.00 E+00	0.00 E+00	6.23 E-02	1.76 E-01	4.36 E-03	-1.18 E+01

### 4.3 Results per unit of product

The following results of the environmental declaration have been developed by considering the entire life cycle of one product with the technical properties described in Table 1. The results refer to the core environmental impact indicators and indicators describing resource use, waste categories, and output flows according to EN 15804:2012+A2:2019.

**Table 12: Results core environmental impact indicators per unit of product**

	Total (Excl.D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use							End of life				Benefits and loads beyond the system boundaries
		A1	A2				A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	
GWP - total [kg CO2 eq.]	6.03 E+02	1.39 E+01	1.19 E-02	1.86 E-01	9.98 E-01	7.57 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.86 E+02	0.00 E+00	0.00 E+00	1.33 E-01	1.52 E+00	3.78 E-02	-2.43 E+00
GWP - fossil [kg CO2 eq.]	5.99 E+02	1.56 E+01	1.12 E-02	1.44 E-01	9.79 E-01	4.47 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.81 E+02	0.00 E+00	0.00 E+00	1.26 E-01	1.51 E+00	3.77 E-02	-3.42 E+00
GWP - biogenic [kg CO2 eq.]	3.79 E+00	-1.63 E+00	5.29 E-04	4.16 E-02	1.54 E-02	3.08 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.05 E+00	0.00 E+00	0.00 E+00	5.91 E-03	2.57 E-03	7.37 E-05	1.00 E+00
GWP - luluc [kg CO2 eq.]	7.94 E-02	1.06 E-02	1.04 E-04	9.09 E-05	2.91 E-03	1.23 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.31 E-02	0.00 E+00	0.00 E+00	1.16 E-03	1.17 E-04	3.30 E-05	-1.75 E-03
ODP [kg CFC-11 eq.]	1.08 E-08	6.53 E-11	1.46 E-15	6.51 E-13	8.62 E-14	8.25 E-13	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.07 E-08	0.00 E+00	0.00 E+00	1.63 E-14	5.32 E-12	6.31 E-14	-1.05 E-11
AP [Mole of H+ eq.]	1.34 E+00	8.19 E-02	1.31 E-05	5.15 E-04	1.33 E-02	7.28 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.24 E+00	0.00 E+00	0.00 E+00	1.46 E-04	1.15 E-03	1.15 E-04	-9.91 E-03
EP - freshwater [kg P eq.]	2.29 E-03	1.01 E-04	4.10 E-08	1.96 E-07	1.29 E-06	1.17 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.17 E-03	0.00 E+00	0.00 E+00	4.58 E-07	1.26 E-06	5.31 E-06	-1.49 E-05
EP - marine [kg N eq.]	3.17 E-01	1.37 E-02	4.38 E-06	1.13 E-04	5.61 E-03	3.30 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.97 E-01	0.00 E+00	0.00 E+00	4.89 E-05	3.54 E-04	2.71 E-05	-2.46 E-03
EP - terrestrial [Mole of N eq.]	3.32 E+00	1.45 E-01	5.16 E-05	1.22 E-03	6.15 E-02	3.04 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.10 E+00	0.00 E+00	0.00 E+00	5.76 E-04	4.23 E-03	2.98 E-04	-2.58 E-02
POCP [kg NMVOC eq.]	8.51 E-01	4.15 E-02	1.14 E-05	3.47 E-04	1.53 E-02	7.00 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	7.92 E-01	0.00 E+00	0.00 E+00	1.27 E-04	1.15 E-03	8.58 E-05	-7.48 E-03
ADPE [kg Sb eq.]	2.54 E-03	2.45 E-03	7.43 E-10	6.20 E-09	2.68 E-08	1.67 E-07	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	8.98 E-05	0.00 E+00	0.00 E+00	8.30 E-09	5.57 E-08	1.01 E-09	-2.42 E-07
ADPF [MJ]	1.25 E+04	2.42 E+02	1.53 E-01	1.55 E+00	1.24 E+01	5.50 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.22 E+04	0.00 E+00	0.00 E+00	1.70 E+00	4.82 E+00	5.64 E-01	-4.09 E+01
WDP [m³ world equiv.]	1.33 E+02	3.22 E+00	1.35 E-04	4.53 E-02	4.89 E-03	3.13 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.29 E+02	0.00 E+00	0.00 E+00	1.51 E-03	1.44 E-01	-5.27 E-04	-1.53 E-01

Table 13: Results indicators describing resource use, waste categories, and output flows per unit of product.

	Total (Excl.D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use							End of life				Benefits and loads beyond the system boundaries	
		A1	A2				A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1		C2
PERE [MJ]	7.37 E+03	5.99 E+01	1.11 E-02	4.15 E-01	3.46 E-01	1.48 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	7.30 E+03	0.00 E+00	0.00 E+00	1.24 E-01	2.66 E+00	5.08 E-02	-2.89 E+01
PERM [MJ]	1.55 E+01	1.55 E+01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
PERT [MJ]	7.39 E+03	7.54 E+01	1.11 E-02	4.15 E-01	3.46 E-01	1.48 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	7.30 E+03	0.00 E+00	0.00 E+00	1.24 E-01	2.66 E+00	5.08 E-02	-2.89 E+01
PENRE [MJ]	1.25 E+04	2.16 E+02	1.53 E-01	1.55 E+00	1.24 E+01	5.50 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.22 E+04	0.00 E+00	0.00 E+00	1.71 E+00	4.83 E+00	5.64 E-01	-2.55 E+01
PENRM [MJ]	2.77 E+01	2.77 E+01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-1.55 E+01
PENRT [MJ]	1.25 E+04	2.44 E+02	1.53 E-01	1.55 E+00	1.24 E+01	5.50 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.22 E+04	0.00 E+00	0.00 E+00	1.71 E+00	4.83 E+00	5.64 E-01	-4.10 E+01
SM [kg]	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-8.42 E-01
RSF [MJ]	3.33 E-01	0.00 E+00	8.19 E-03	0.00 E+00	2.29 E-01	4.05 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	9.15 E-02	0.00 E+00	0.00 E+00	0.00 E+00
NRSF [MJ]	1.27 E+01	0.00 E+00	1.29 E-01	0.00 E+00	1.10 E+01	6.35 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.44 E+00	0.00 E+00	0.00 E+00	0.00 E+00
FW [m3]	6.05 E+00	1.40 E-01	1.22 E-05	1.08 E-03	3.86 E-04	6.14 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.90 E+00	0.00 E+00	0.00 E+00	1.36 E-04	4.58 E-03	5.77 E-06	-1.46 E-02
HWD [kg]	7.48 E-07	1.51 E-06	4.74 E-13	-7.01 E-11	3.89 E-11	1.89 E-07	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-9.56 E-07	0.00 E+00	0.00 E+00	5.30 E-12	1.58 E-09	4.72 E-11	-1.45 E-07
NHWD [kg]	1.07 E+01	7.69 E-01	2.34 E-05	2.15 E-02	1.40 E-03	1.03 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	8.95 E+00	0.00 E+00	0.00 E+00	2.61 E-04	1.94 E-01	6.17 E-01	-2.74 E-01
RWD [kg]	1.95 E+00	5.98 E-03	2.87 E-07	3.63 E-05	1.76 E-05	1.39 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.94 E+00	0.00 E+00	0.00 E+00	3.20 E-06	3.01 E-04	6.64 E-06	-1.61 E-03
CRU [kg]	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
MFR [kg]	1.63 E+00	3.78 E-02	0.00 E+00	7.05 E-02	0.00 E+00	7.30 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	7.88 E-01	0.00 E+00	0.00 E+00
MER [kg]	8.17 E-01	0.00 E+00	0.00 E+00	2.65 E-02	0.00 E+00	1.05 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.86 E-01	0.00 E+00	0.00 E+00
EEE [MJ]	2.28 E+00	6.61 E-03	0.00 E+00	0.00 E+00	0.00 E+00	3.00 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.97 E+00	0.00 E+00	-3.19 E-02
EET [MJ]	4.93 E+00	1.53 E-02	0.00 E+00	0.00 E+00	0.00 E+00	5.26 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	4.39 E+00	0.00 E+00	0.00 E+00	-7.40 E-02
Biog. C in product [kg]	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Biog. C in packaging [kg]	0.00 E+00	-3.71 E-01	0.00 E+00	0.00 E+00	0.00 E+00	3.71 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00

**Table 14: Additional environmental impact indicators per unit of product**

	Total (Excl.D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use							End of life				Benefits and loads beyond the system boundaries
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM [Disease incidences]	1.17 E-05	9.18 E-07	9.52 E-11	7.03 E-09	3.45 E-07	6.17 E-09	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.04 E-05	0.00 E+00	0.00 E+00	1.06 E-09	1.43 E-08	1.15 E-09	-1.20 E-07
IRP [kBq. U235 eq.]	3.24 E+02	6.69 E-01	4.28 E-05	2.30 E-03	2.56 E-03	2.29 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.23 E+02	0.00 E+00	0.00 E+00	4.78 E-04	3.33 E-02	9.82 E-04	-2.90 E-01
ETP-fw [CTUe]	3.54 E+03	1.30 E+02	1.09 E-01	2.25 E-01	8.79 E+00	7.95 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.40 E+03	0.00 E+00	0.00 E+00	1.22 E+00	1.45 E+00	3.96 E-01	-1.02 E+01
HTP-c [CTUh]	2.16 E-07	3.59 E-08	2.22 E-12	3.01 E-11	1.67 E-10	8.05 E-11	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.80 E-07	0.00 E+00	0.00 E+00	2.48 E-11	1.42 E-10	2.34 E-11	-2.79 E-09
HTP-nc [CTUh]	3.14 E-06	2.49 E-07	9.87 E-11	6.38 E-10	6.10 E-09	4.09 E-09	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.87 E-06	0.00 E+00	0.00 E+00	1.10 E-09	8.78 E-09	1.95 E-09	-1.88 E-08
SQP [dimensionsless]	5.07 E+03	2.63 E+02	6.38 E-02	1.92 E-01	1.81 E+00	7.69 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	4.80 E+03	0.00 E+00	0.00 E+00	7.12 E-01	2.02 E+00	4.98 E-02	-1.35 E+02

## 4.4 Data quality

The underlying LCA model has been developed in Sphera’s LCA software LCA for Experts V.10 and with datasets from Sphera’s Managed LCA Content. The overall DQR for the representativeness has been calculated as average of the individual ratings according to the PCR respectively the Product Environmental Footprint Guide, version 6.3. Consequently, the overall representativeness is assessed as good (DQR = 1.81).

The individual rating for technological, time and geographical representativeness is assessed as good (DQR = 2.13, 1.44 and 1.84).

## 5 Extrapolation Rules

The extrapolation coefficients in the PEP Eco-passport have been developed according to the valid PCR & PSR. Table 15 shows the key properties of the reference product, with function as extrapolation basis.

**Table 15: Reference values for the extrapolations.**

Parameter	Unit	Reference value
Weight of structural/ mechanical parts	kg	1.734
Weight of power equipment	kg	0.256
Weight of light source	kg	0.066
Weight of light management system	kg	0.036
Weight of product (excl. packaging)	kg	2.093
Weight of packaging	kg	0.925
Weight of product (incl. packaging)	kg	3.018
Typical power consumption	W	36
Lumen output	lm	4,000
Energy saving	-	0.5

The extrapolation at the level of the functional unit needs to be done according to the following formula:

$$\text{Extrapolation coefficient at the product level} \times \frac{\text{Lighting output of reference product (lumen)}}{\text{Lighting output of product concerned (lumen)}}$$

Lumen output of each product variant and other important properties are listed in the tables below.

**Table 16: Information for product family: Non dimmable**

Product code	Product name	Power (W)	Luminaire structure weight (kg)	Product packaging weight (kg)	Control gear weight (kg)	Light source weight (kg)	Light management weight (kg)	Total weight (kg)	Energy saving coefficient
0041236	START Panel UGR19 600x600 4000lm 940 LILO	43	1.734	0.925	0.147	0.071	0.000	2.877	1
0042201	START Panel UGR19 1200x600 5700Lm 830 LILO	58	3.240	1.417	0.155	0.135	0.000	4.947	1
0042202	START Panel UGR19 1200x600 5900Lm 840 LILO	58	3.240	1.417	0.155	0.135	0.000	4.947	1
0042203	START Panel UGR19 1200x600 5900Lm 865 LILO	58	3.240	1.417	0.155	0.135	0.000	4.947	1
0042281	SYLPANEL 625X625 UGR19 3800LM 830 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042282	SYLPANEL 625X625 UGR19 4000LM 840 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042821	START Panel UGR19 600x600 3200Lm 830 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042822	START Panel UGR19 600x600 3200Lm 840 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042823	START Panel UGR19 600x600 3200Lm 865 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042824	START Panel UGR19 600x600 3400Lm 830 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042825	START Panel UGR19 600x600 3600Lm 840 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042826	START Panel UGR19 600x600 3600Lm 865 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042827	START Panel UGR19 600x600 3800Lm 830 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042828	START Panel UGR19 600x600 4000Lm 840 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0042830	START Panel UGR19 600x600 4600Lm 830 LILO	43	1.732	0.835	0.147	0.099	0.000	2.813	1
0042831	START Panel UGR19 600x600 4800Lm 840 LILO	43	1.732	0.835	0.147	0.099	0.000	2.813	1
0042832	START Panel UGR19 600x600 4800Lm 865 LILO	43	1.732	0.835	0.147	0.099	0.000	2.813	1
0042833	START Panel UGR19 1200x300 3200Lm 830 LILO	36	1.822	0.957	0.147	0.071	0.000	2.997	1
0042834	START Panel UGR19 1200x300 3400Lm 840 LILO	36	1.822	0.957	0.147	0.071	0.000	2.997	1
0042835	START Panel UGR19 1200x300 3400Lm 865 LILO	36	1.822	0.957	0.147	0.071	0.000	2.997	1
0042836	START Panel UGR19 1200x300 3600Lm 830 LILO	36	1.822	0.957	0.147	0.071	0.000	2.997	1
0042837	START Panel UGR19 1200x300 3800Lm 840 LILO	36	1.822	0.957	0.147	0.071	0.000	2.997	1
0042838	START Panel UGR19 1200x300 3800Lm 865 LILO	36	1.822	0.957	0.147	0.071	0.000	2.997	1
0042842	START Panel UGR19 625x625 3200Lm 830 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042843	START Panel UGR19 625x625 3200Lm 840 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042844	START Panel UGR19 625x625 3200Lm 865 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042845	START Panel UGR19 625x625 3800Lm 830 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042846	START Panel UGR19 625x625 4000Lm 840 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042847	START Panel UGR19 625x625 4000Lm 865 LILO	36	1.862	0.907	0.147	0.071	0.000	2.987	1
0042869	START Panel 600x600 3800Lm 830 LILO	36	1.432	0.795	0.147	0.071	0.000	2.445	1
0042870	START Panel 600x600 4000Lm 840 LILO	36	1.432	0.795	0.147	0.071	0.000	2.445	1
0042871	START Panel 600x600 4000Lm 865 LILO	36	1.432	0.795	0.147	0.071	0.000	2.445	1

0042872	START Panel 600x600 HE 4100Lm 830 LILO	34	1.432	0.795	0.147	0.071	0.000	2.445	1
0042873	START Panel 600x600 HE 4300Lm 840 LILO	34	1.432	0.795	0.147	0.071	0.000	2.445	1
0042874	START Panel 600x600 HE 4300Lm 865 LILO	34	1.432	0.795	0.147	0.071	0.000	2.445	1
0042875	START Panel 625x625 HE 4100Lm 830 LILO	34	1.562	0.857	0.147	0.071	0.000	2.637	1
0042876	START Panel 625x625 HE 4300Lm 840 LILO	34	1.562	0.857	0.147	0.071	0.000	2.637	1
0042877	START Panel 625x625 HE 4300Lm 865 LILO	34	1.562	0.857	0.147	0.071	0.000	2.637	1
0042878	START Panel 1200x300 HE 3900Lm 830 LILO	34	1.522	0.907	0.147	0.071	0.000	2.647	1
0042879	START Panel 1200x300 HE 4100Lm 840 LILO	34	1.522	0.907	0.147	0.071	0.000	2.647	1
0042880	START Panel 1200x300 HE 4100Lm 865 LILO	34	1.522	0.907	0.147	0.071	0.000	2.647	1
0042978	START Panel UGR19 600x600 4000Lm 850 LILO	36	1.732	0.835	0.147	0.071	0.000	2.785	1
0044626	START Panel UGR19 600x600 3400lm 830	27	1.732	0.835	0.147	0.071	0.000	2.785	1
0044627	START Panel UGR19 600x600 3600lm 840	27	1.732	0.835	0.147	0.071	0.000	2.785	1
0044629	START Panel UGR19 1200x300 3600lm 830	29	1.822	0.957	0.147	0.071	0.000	2.997	1
0044630	START Panel UGR19 1200x300 3800lm 840	29	1.822	0.957	0.147	0.071	0.000	2.997	1
0044632	START Panel UGR19 625x625 3800lm 830	30	1.862	0.907	0.147	0.071	0.000	2.987	1
0044633	START Panel UGR19 625x625 4000lm 840	30	1.862	0.907	0.147	0.071	0.000	2.987	1
0044635	START Panel 600x600 3800lm 830	30	1.432	0.795	0.147	0.071	0.000	2.445	1
0044636	START Panel 600x600 4000lm 840	30	1.432	0.795	0.147	0.071	0.000	2.445	1
0044638	START Panel UGR19 600x600 4000lm 840	30	1.732	0.835	0.147	0.071	0.000	2.785	1
0044656	START Panel UGR19 600x600 3800Lm 830	30	1.732	0.835	0.147	0.071	0.000	2.785	1
0042630	ST Panel UGR19 600x600 HE IP44 4100 830 LILO	34	1.734	0.925	0.147	0.071	0.000	2.877	1
0042631	ST Panel UGR19 600x600 HE IP44 4300 840 LILO	34	1.734	0.925	0.147	0.071	0.000	2.877	1
0042632	ST Panel UGR19 600x600 HE IP44 4100 830 LILO	34	1.734	0.925	0.147	0.071	0.000	2.877	1
0042635	ST Panel UGR19 1200x300 HE IP44 4100 840 LILO	34	1.825	1.285	0.147	0.071	0.000	3.327	1
0042636	ST Panel UGR19 1200x300 HE IP44 3900 830 LILO	34	1.825	1.285	0.147	0.071	0.000	3.327	1
0042637	ST Panel UGR19 1200x300 HE IP44 4100 840 LILO	34	1.825	1.285	0.147	0.071	0.000	3.327	1
0042674	ST Panel UGR19 625x625 HE IP44 4100 830 LILO	34	1.873	0.990	0.147	0.071	0.000	3.081	1
0042675	ST Panel UGR19 625x625 HE IP44 4300 840 LILO	34	1.873	0.990	0.147	0.071	0.000	3.081	1

**Table 17: Information for product family: Dali (DA)**

Product code	Product name	Power (W)	Luminaire structure weight (kg)	Product packaging weight (kg)	Control gear weight (kg)	Light source weight (kg)	Light management weight (kg)	Total weight (kg)	Energy saving coefficient
0042228	START Panel UGR19 1200x600 DALI 5700Lm 830	58	3.240	1.417	0.294	0.135	0.000	5.086	0.5
0042229	START Panel UGR19 1200x600 DALI 5900Lm 840	58	3.240	1.417	0.294	0.135	0.000	5.086	0.5
0042230	START Panel UGR19 1200x600 DALI 5900Lm 865	58	3.240	1.417	0.294	0.135	0.000	5.086	0.5
0042848	START Panel UGR19 600x600 DALI 3400Lm 830	36	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0042850	START Panel UGR19 600x600 DALI 3600Lm 865	36	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0042851	START Panel UGR19 600x600 DALI 3800Lm 830	36	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0042852	START Panel UGR19 600x600 DALI 4000Lm 840	36	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0042853	START Panel UGR19 600x600 DALI 4000Lm 865	36	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0042854	START Panel UGR19 600x600 DALI 4600Lm 830	43	1.732	0.835	0.207	0.099	0.000	2.873	0.5
0042855	START Panel UGR19 600x600 DALI 4800Lm 840	43	1.732	0.835	0.207	0.099	0.000	2.873	0.5
0042856	START Panel UGR19 600x600 DALI 4800Lm 865	43	1.732	0.835	0.207	0.099	0.000	2.873	0.5
0042857	START Panel UGR19 1200x300 DALI 3200Lm 830	36	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0042858	START Panel UGR19 1200x300 DALI 3400Lm 840	36	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0042859	START Panel UGR19 1200x300 DALI 3400Lm 865	36	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0042860	START Panel UGR19 1200x300 DALI 3600Lm 830	36	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0042861	START Panel UGR19 1200x300 DALI 3800Lm 840	36	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0042862	START Panel UGR19 1200x300 DALI 3800Lm 865	36	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0042866	START Panel UGR19 625x625 DALI 3800Lm 830	36	1.862	0.907	0.207	0.071	0.000	3.047	0.5
0042867	START Panel UGR19 625x625 DALI 4000Lm 840	36	1.862	0.907	0.207	0.071	0.000	3.047	0.5
0042868	START Panel UGR19 625x625 DALI 4000Lm 865	36	1.862	0.907	0.207	0.071	0.000	3.047	0.5
0042881	START Panel 600x600 DALI 3800Lm 830	36	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0042882	START Panel 600x600 DALI 4000Lm 840	36	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0042883	START Panel 600x600 DALI 4000Lm 865	36	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0042884	START Panel 600x600 HE DALI 4100Lm 830	34	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0042885	START Panel 600x600 HE DALI 4300Lm 840	34	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0042886	START Panel 600x600 HE DALI 4300Lm 865	34	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0042887	START Panel 625x625 HE DALI 4100Lm 830	34	1.562	0.857	0.207	0.071	0.000	2.697	0.5
0042888	START Panel 625x625 HE DALI 4300Lm 840	34	1.562	0.857	0.207	0.071	0.000	2.697	0.5
0042889	START Panel 625x625 HE DALI 4300Lm 865	34	1.562	0.857	0.207	0.071	0.000	2.697	0.5
0042890	START Panel 1200x300HE DALI 3900Lm 830	34	1.522	0.907	0.207	0.071	0.000	2.707	0.5
0042891	START Panel 1200x300HE DALI 4100Lm 840	34	1.522	0.907	0.207	0.071	0.000	2.707	0.5
0042892	START Panel 1200x300HE DALI 4100Lm 865	34	1.522	0.907	0.207	0.071	0.000	2.707	0.5
0044628	START Panel UGR19 600x600 DALI 3600Lm 840	27	1.732	0.835	0.147	0.071	0.000	2.785	0.5

0044631	START Panel UGR19 1200x300 DALI 3800lm 840	29	1.822	0.957	0.207	0.071	0.000	3.057	0.5
0044634	START Panel UGR19 625x625 DALI 4000lm 840	30	1.862	0.907	0.207	0.071	0.000	3.047	0.5
0044637	START Panel 600x600 DALI 4000lm 840	30	1.432	0.795	0.207	0.071	0.000	2.505	0.5
0044639	START Panel UGR19 600x600 DALI 4000lm 840	30	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0044657	START Panel UGR19 600x600 DALI 3800Lm 830	30	1.732	0.835	0.207	0.071	0.000	2.845	0.5
0042638	ST Panel UGR19 600x600 HE IP44 DALI 4100 830	34	1.734	0.925	0.207	0.071	0.000	2.937	0.5
0042639	ST Panel UGR19 600x600 HE IP44 DALI 4300 840	34	1.734	0.925	0.207	0.071	0.000	2.937	0.5
0042640	ST Panel UGR19 1200x300 HE IP44 DALI 3900 830	34	1.825	1.285	0.207	0.071	0.000	3.387	0.5
0042641	ST Panel UGR19 1200x300 HE IP44 DALI 4100 840	34	1.825	1.285	0.207	0.071	0.000	3.387	0.5
0042676	ST Panel UGR19 625x625 HE IP44 DALI 4100 830	34	1.873	0.990	0.207	0.071	0.000	3.141	0.5
0042677	ST Panel UGR19 625x625 HE IP44 DALI 4300 840	34	1.873	0.990	0.207	0.071	0.000	3.141	0.5
0042705	START PANEL IP54 UGR19 TW 600x600 4300LM DALI DT8	36	1.734	0.925	0.324	0.108	0.000	3.092	0.5
0042707	START PANEL IP54 UGR19 TW 1200x300 4300LM DALI DT8	36	1.825	1.285	0.324	0.108	0.000	3.542	0.5
0042709	START PANEL IP54 UGR19 TW 625x625 4300LM DALI DT8	36	1.873	0.990	0.324	0.108	0.000	3.295	0.5

**Table 18: Information for product family: SSC**

Product code	Product name	Power (W)	Luminaire structure weight (kg)	Product packaging weight (kg)	Control gear weight (kg)	Light source weight (kg)	Light management weight (kg)	Total weight (kg)	Energy saving coefficient
0042894	START Panel UGR19 600x600 4000Lm 840 SSC	36	1.732	0.835	0.209	0.071	0.000	2.847	0.5
0042895	START Panel UGR19 600x600 4000Lm 865 SSC	36	1.732	0.835	0.209	0.071	0.000	2.847	0.5
0042896	START Panel UGR19 600x600 4600Lm 830 SSC	43	1.732	0.835	0.209	0.099	0.000	2.875	0.5
0042898	START Panel UGR19 600x600 4800Lm 865 SSC	43	1.732	0.835	0.209	0.099	0.000	2.875	0.5
0042899	START Panel UGR19 1200x300 3600Lm 830 SSC	36	1.822	0.957	0.209	0.071	0.000	3.059	0.5
0042901	START Panel UGR19 1200x300 3800Lm 865 SSC	36	1.822	0.957	0.209	0.071	0.000	3.059	0.5
0042902	START Panel UGR19 625x625 3800Lm 830 SSC	36	1.862	0.907	0.209	0.071	0.000	3.049	0.5
0042678	ST Panel UGR19 600x600 HE IP44 SSC 4100 830	34	1.734	0.925	0.209	0.071	0.000	2.939	0.5
0042679	ST Panel UGR19 600x600 HE IP44 SSC 4300 840	34	1.734	0.925	0.209	0.071	0.000	2.939	0.5
0042680	ST Panel UGR19 1200x300 HE IP44 SSC 3900 830	34	1.825	1.285	0.209	0.071	0.000	3.389	0.5
0042681	ST Panel UGR19 1200x300 HE IP44 SSC 4100 840	34	1.825	1.285	0.209	0.071	0.000	3.389	0.5
0042706	START PANEL IP54 UGR19 TW 600x600 4300LM SSC	38	1.734	0.925	0.209	0.108	0.000	2.976	0.5
0042708	START PANEL IP54 UGR19 TW 1200x300 4300LM SSC	38	1.825	1.285	0.209	0.108	0.000	3.426	0.5
0042710	START PANEL IP54 UGR19 TW 625x625 4300LM SSC	38	1.873	0.990	0.209	0.108	0.000	3.180	0.5

**Table 19: Information for product family: SSA**

Product code	Product name	Power (W)	Luminaire structure weight (kg)	Product packaging weight (kg)	Control gear weight (kg)	Light source weight (kg)	Light management weight (kg)	Total weight (kg)	Energy saving coefficient
0042159	START Panel UGR19 600x600 3800Lm 830 SSA01D	36	1.732	0.835	0.223	0.071	0.000	2.861	0.5
0042160	START Panel UGR19 600x600 4000Lm 840 SSA01D	36	1.732	0.835	0.223	0.071	0.000	2.861	0.5
0042163	START Panel UGR19 625x625 3800Lm 830 SSA01D	36	1.862	0.907	0.223	0.071	0.000	3.063	0.5
0042164	START Panel UGR19 625x625 4000Lm 840 SSA01D	36	1.862	0.907	0.223	0.071	0.000	3.063	0.5
0042165	START Panel UGR19 1200x300 3600Lm 830 SSA01D	36	1.822	0.957	0.223	0.071	0.000	3.073	0.5
0042166	START Panel UGR19 1200x300 3800Lm 840 SSA01D	36	1.822	0.957	0.223	0.071	0.000	3.073	0.5
0042682	START Panel UGR19 600x600 3800Lm 830 SSA03	36	1.734	0.925	0.256	0.066	0.036	3.018	0.5
0042683	START Panel UGR19 600x600 4000Lm 840 SSA03	36	1.734	0.925	0.256	0.066	0.036	3.018	0.5
0042684	START Panel UGR19 600x600 4600Lm 830 SSA03	43	1.734	0.925	0.256	0.099	0.036	3.050	0.5
0042685	START Panel UGR19 600x600 4800Lm 840 SSA03	43	1.734	0.925	0.256	0.099	0.036	3.050	0.5
0042686	START Panel UGR19 625x625 3800Lm 830 SSA03	36	1.873	0.990	0.256	0.066	0.036	3.222	0.5
0042687	START Panel UGR19 625x625 4000Lm 840 SSA03	36	1.873	0.990	0.256	0.066	0.036	3.222	0.5
0042688	START Panel UGR19 1200x300 3600Lm 830 SSA03	36	1.825	1.285	0.256	0.066	0.036	3.468	0.5
0042689	START Panel UGR19 1200x300 3800Lm 840 SSA03	36	1.825	1.285	0.256	0.066	0.036	3.468	0.5

The required extrapolation coefficients at the product level are listed in the following tables.

**Table 20: Extrapolation coefficients at product level for Constant current Non dimmable**

Product code	Product name	Power (W)	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0041236	START Panel UGR19 600x600 4000lm 940 LILO	43	0.98	0.95	1.00	2.39	0.93	0.98
0042201	START Panel UGR19 1200x600 5700Lm 830 LILO	58	1.74	1.64	1.53	3.22	1.69	1.74
0042202	START Panel UGR19 1200x600 5900Lm 840 LILO	58	1.74	1.64	1.53	3.22	1.69	1.74
0042203	START Panel UGR19 1200x600 5900Lm 865 LILO	58	1.74	1.64	1.53	3.22	1.69	1.74
0042281	SYLPANEL 625X625 UGR19 3800LM 830 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042282	SYLPANEL 625X625 UGR19 4000LM 840 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042821	START Panel UGR19 600x600 3200Lm 830 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042822	START Panel UGR19 600x600 3200Lm 840 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042823	START Panel UGR19 600x600 3200Lm 865 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042824	START Panel UGR19 600x600 3400Lm 830 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042825	START Panel UGR19 600x600 3600Lm 840 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042826	START Panel UGR19 600x600 3600Lm 865 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042827	START Panel UGR19 600x600 3800Lm 830 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042828	START Panel UGR19 600x600 4000Lm 840 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0042830	START Panel UGR19 600x600 4600Lm 830 LILO	43	0.97	0.93	0.90	2.39	0.95	0.97
0042831	START Panel UGR19 600x600 4800Lm 840 LILO	43	0.97	0.93	0.90	2.39	0.95	0.97
0042832	START Panel UGR19 600x600 4800Lm 865 LILO	43	0.97	0.93	0.90	2.39	0.95	0.97
0042833	START Panel UGR19 1200x300 3200Lm 830 LILO	36	1.02	0.99	1.03	2.00	0.97	1.02
0042834	START Panel UGR19 1200x300 3400Lm 840 LILO	36	1.02	0.99	1.03	2.00	0.97	1.02
0042835	START Panel UGR19 1200x300 3400Lm 865 LILO	36	1.02	0.99	1.03	2.00	0.97	1.02
0042836	START Panel UGR19 1200x300 3600Lm 830 LILO	36	1.02	0.99	1.03	2.00	0.97	1.02
0042837	START Panel UGR19 1200x300 3800Lm 840 LILO	36	1.02	0.99	1.03	2.00	0.97	1.02
0042838	START Panel UGR19 1200x300 3800Lm 865 LILO	36	1.02	0.99	1.03	2.00	0.97	1.02
0042842	START Panel UGR19 625x625 3200Lm 830 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042843	START Panel UGR19 625x625 3200Lm 840 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042844	START Panel UGR19 625x625 3200Lm 865 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042845	START Panel UGR19 625x625 3800Lm 830 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042846	START Panel UGR19 625x625 4000Lm 840 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042847	START Panel UGR19 625x625 4000Lm 865 LILO	36	1.02	0.99	0.98	2.00	0.99	1.02
0042869	START Panel 600x600 3800Lm 830 LILO	36	0.83	0.81	0.86	2.00	0.79	0.83
0042870	START Panel 600x600 4000Lm 840 LILO	36	0.83	0.81	0.86	2.00	0.79	0.83
0042871	START Panel 600x600 4000Lm 865 LILO	36	0.83	0.81	0.86	2.00	0.79	0.83
0042872	START Panel 600x600 HE 4100Lm 830 LILO	34	0.83	0.81	0.86	1.89	0.79	0.83

0042873	START Panel 600x600 HE 4300Lm 840 LILO	34	0.83	0.81	0.86	1.89	0.79	0.83
0042874	START Panel 600x600 HE 4300Lm 865 LILO	34	0.83	0.81	0.86	1.89	0.79	0.83
0042875	START Panel 625x625 HE 4100Lm 830 LILO	34	0.90	0.87	0.93	1.89	0.85	0.90
0042876	START Panel 625x625 HE 4300Lm 840 LILO	34	0.90	0.87	0.93	1.89	0.85	0.90
0042877	START Panel 625x625 HE 4300Lm 865 LILO	34	0.90	0.87	0.93	1.89	0.85	0.90
0042878	START Panel 1200x300 HE 3900Lm 830 LILO	34	0.90	0.88	0.98	1.89	0.83	0.90
0042879	START Panel 1200x300 HE 4100Lm 840 LILO	34	0.90	0.88	0.98	1.89	0.83	0.90
0042880	START Panel 1200x300 HE 4100Lm 865 LILO	34	0.90	0.88	0.98	1.89	0.83	0.90
0042978	START Panel UGR19 600x600 4000Lm 850 LILO	36	0.95	0.92	0.90	2.00	0.93	0.95
0044626	START Panel UGR19 600x600 3400lm 830	27	0.95	0.92	0.90	1.50	0.93	0.95
0044627	START Panel UGR19 600x600 3600lm 840	27	0.95	0.92	0.90	1.50	0.93	0.95
0044629	START Panel UGR19 1200x300 3600lm 830	29	1.02	0.99	1.03	1.61	0.97	1.02
0044630	START Panel UGR19 1200x300 3800lm 840	29	1.02	0.99	1.03	1.61	0.97	1.02
0044632	START Panel UGR19 625x625 3800lm 830	30	1.02	0.99	0.98	1.67	0.99	1.02
0044633	START Panel UGR19 625x625 4000lm 840	30	1.02	0.99	0.98	1.67	0.99	1.02
0044635	START Panel 600x600 3800lm 830	30	0.83	0.81	0.86	1.67	0.79	0.83
0044636	START Panel 600x600 4000lm 840	30	0.83	0.81	0.86	1.67	0.79	0.83
0044638	START Panel UGR19 600x600 4000lm 840	30	0.95	0.92	0.90	1.67	0.93	0.95
0044656	START Panel UGR19 600x600 3800Lm 830	30	0.95	0.92	0.90	1.67	0.93	0.95
0042630	ST Panel UGR19 600x600 HE IP44 4100 830 LILO	34	0.98	0.95	1.00	1.89	0.93	0.98
0042631	ST Panel UGR19 600x600 HE IP44 4300 840 LILO	34	0.98	0.95	1.00	1.89	0.93	0.98
0042632	ST Panel UGR19 600x600 HE IP44 4100 830 LILO	34	0.98	0.95	1.00	1.89	0.93	0.98
0042635	ST Panel UGR19 1200x300 HE IP44 4100 840 LILO	34	1.16	1.10	1.39	1.89	0.98	1.16
0042636	ST Panel UGR19 1200x300 HE IP44 3900 830 LILO	34	1.16	1.10	1.39	1.89	0.98	1.16
0042637	ST Panel UGR19 1200x300 HE IP44 4100 840 LILO	34	1.16	1.10	1.39	1.89	0.98	1.16
0042674	ST Panel UGR19 625x625 HE IP44 4100 830 LILO	34	1.05	1.02	1.07	1.89	1.00	1.05
0042675	ST Panel UGR19 625x625 HE IP44 4300 840 LILO	34	1.05	1.02	1.07	1.89	1.00	1.05

**Table 21: Extrapolation coefficients at product level for Dali (DA)**

Product code	Product name	Power (W)	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0042228	START Panel UGR19 1200x600 DALI 5700Lm 830	58	1.74	1.69	1.53	1.61	1.75	1.74
0042229	START Panel UGR19 1200x600 DALI 5900Lm 840	58	1.74	1.69	1.53	1.61	1.75	1.74
0042230	START Panel UGR19 1200x600 DALI 5900Lm 865	58	1.74	1.69	1.53	1.61	1.75	1.74
0042848	START Panel UGR19 600x600 DALI 3400Lm 830	36	0.96	0.94	0.90	1.00	0.96	0.96
0042850	START Panel UGR19 600x600 DALI 3600Lm 865	36	0.96	0.94	0.90	1.00	0.96	0.96
0042851	START Panel UGR19 600x600 DALI 3800Lm 830	36	0.96	0.94	0.90	1.00	0.96	0.96
0042852	START Panel UGR19 600x600 DALI 4000Lm 840	36	0.96	0.94	0.90	1.00	0.96	0.96
0042853	START Panel UGR19 600x600 DALI 4000Lm 865	36	0.96	0.94	0.90	1.00	0.96	0.96
0042854	START Panel UGR19 600x600 DALI 4600Lm 830	43	0.97	0.95	0.90	1.19	0.97	0.97
0042855	START Panel UGR19 600x600 DALI 4800Lm 840	43	0.97	0.95	0.90	1.19	0.97	0.97
0042856	START Panel UGR19 600x600 DALI 4800Lm 865	43	0.97	0.95	0.90	1.19	0.97	0.97
0042857	START Panel UGR19 1200x300 DALI 3200Lm 830	36	1.03	1.01	1.03	1.00	1.00	1.03
0042858	START Panel UGR19 1200x300 DALI 3400Lm 840	36	1.03	1.01	1.03	1.00	1.00	1.03
0042859	START Panel UGR19 1200x300 DALI 3400Lm 865	36	1.03	1.01	1.03	1.00	1.00	1.03
0042860	START Panel UGR19 1200x300 DALI 3600Lm 830	36	1.03	1.01	1.03	1.00	1.00	1.03
0042861	START Panel UGR19 1200x300 DALI 3800Lm 840	36	1.03	1.01	1.03	1.00	1.00	1.03
0042862	START Panel UGR19 1200x300 DALI 3800Lm 865	36	1.03	1.01	1.03	1.00	1.00	1.03
0042866	START Panel UGR19 625x625 DALI 3800Lm 830	36	1.03	1.01	0.98	1.00	1.02	1.03
0042867	START Panel UGR19 625x625 DALI 4000Lm 840	36	1.03	1.01	0.98	1.00	1.02	1.03
0042868	START Panel UGR19 625x625 DALI 4000Lm 865	36	1.03	1.01	0.98	1.00	1.02	1.03
0042881	START Panel 600x600 DALI 3800Lm 830	36	0.84	0.83	0.86	1.00	0.82	0.84
0042882	START Panel 600x600 DALI 4000Lm 840	36	0.84	0.83	0.86	1.00	0.82	0.84
0042883	START Panel 600x600 DALI 4000Lm 865	36	0.84	0.83	0.86	1.00	0.82	0.84
0042884	START Panel 600x600 HE DALI 4100Lm 830	34	0.84	0.83	0.86	0.94	0.82	0.84
0042885	START Panel 600x600 HE DALI 4300Lm 840	34	0.84	0.83	0.86	0.94	0.82	0.84
0042886	START Panel 600x600 HE DALI 4300Lm 865	34	0.84	0.83	0.86	0.94	0.82	0.84
0042887	START Panel 625x625 HE DALI 4100Lm 830	34	0.91	0.89	0.93	0.94	0.88	0.91
0042888	START Panel 625x625 HE DALI 4300Lm 840	34	0.91	0.89	0.93	0.94	0.88	0.91
0042889	START Panel 625x625 HE DALI 4300Lm 865	34	0.91	0.89	0.93	0.94	0.88	0.91
0042890	START Panel 1200x300HE DALI 3900Lm 830	34	0.91	0.90	0.98	0.94	0.86	0.91
0042891	START Panel 1200x300HE DALI 4100Lm 840	34	0.91	0.90	0.98	0.94	0.86	0.91
0042892	START Panel 1200x300HE DALI 4100Lm 865	34	0.91	0.90	0.98	0.94	0.86	0.91
0044628	START Panel UGR19 600x600 DALI 3600lm 840	27	0.95	0.92	0.90	0.75	0.93	0.95
0044631	START Panel UGR19 1200x300 DALI 3800lm 840	29	1.03	1.01	1.03	0.81	1.00	1.03

0044634	START Panel UGR19 625x625 DALI 4000lm 840	30	1.03	1.01	0.98	0.83	1.02	1.03
0044637	START Panel 600x600 DALI 4000lm 840	30	0.84	0.83	0.86	0.83	0.82	0.84
0044639	START Panel UGR19 600x600 DALI 4000lm 840	30	0.96	0.94	0.90	0.83	0.96	0.96
0044657	START Panel UGR19 600x600 DALI 3800Lm 830	30	0.96	0.94	0.90	0.83	0.96	0.96
0042638	ST Panel UGR19 600x600 HE IP44 DALI 4100 830	34	0.99	0.97	1.00	0.94	0.96	0.99
0042639	ST Panel UGR19 600x600 HE IP44 DALI 4300 840	34	0.99	0.97	1.00	0.94	0.96	0.99
0042640	ST Panel UGR19 1200x300 HE IP44 DALI 3900 830	34	1.17	1.12	1.39	0.94	1.00	1.17
0042641	ST Panel UGR19 1200x300 HE IP44 DALI 4100 840	34	1.17	1.12	1.39	0.94	1.00	1.17
0042676	ST Panel UGR19 625x625 HE IP44 DALI 4100 830	34	1.06	1.04	1.07	0.94	1.03	1.06
0042677	ST Panel UGR19 625x625 HE IP44 DALI 4300 840	34	1.06	1.04	1.07	0.94	1.03	1.06
0042705	START PANEL IP54 UGR19 TW 600x600 4300LM DALI DT8	36	1.05	1.02	1.00	1.00	1.04	1.05
0042707	START PANEL IP54 UGR19 TW 1200x300 4300LM DALI DT8	36	1.21	1.17	1.39	1.00	1.08	1.21
0042709	START PANEL IP54 UGR19 TW 625x625 4300LM DALI DT8	36	1.11	1.09	1.07	1.00	1.10	1.11

**Table 22: Extrapolation coefficients at product level for SSC**

Product code	Product name	Power (W)	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0042894	START Panel UGR19 600x600 4000Lm 840 SSC	36	0.96	0.94	0.90	1.00	0.96	0.96
0042895	START Panel UGR19 600x600 4000Lm 865 SSC	36	0.96	0.94	0.90	1.00	0.96	0.96
0042896	START Panel UGR19 600x600 4600Lm 830 SSC	43	0.97	0.95	0.90	1.19	0.97	0.97
0042898	START Panel UGR19 600x600 4800Lm 865 SSC	43	0.97	0.95	0.90	1.19	0.97	0.97
0042899	START Panel UGR19 1200x300 3600Lm 830 SSC	36	1.03	1.01	1.03	1.00	1.00	1.03
0042901	START Panel UGR19 1200x300 3800Lm 865 SSC	36	1.03	1.01	1.03	1.00	1.00	1.03
0042902	START Panel UGR19 625x625 3800Lm 830 SSC	36	1.03	1.01	0.98	1.00	1.02	1.03
0042678	ST Panel UGR19 600x600 HE IP44 SSC 4100 830	34	0.99	0.97	1.00	0.94	0.96	0.99
0042679	ST Panel UGR19 600x600 HE IP44 SSC 4300 840	34	0.99	0.97	1.00	0.94	0.96	0.99
0042680	ST Panel UGR19 1200x300 HE IP44 SSC 3900 830	34	1.17	1.12	1.39	0.94	1.01	1.17
0042681	ST Panel UGR19 1200x300 HE IP44 SSC 4100 840	34	1.17	1.12	1.39	0.94	1.01	1.17
0042706	START PANEL IP54 UGR19 TW 600x600 4300LM SSC	38	1.01	0.99	1.00	1.06	0.98	1.01
0042708	START PANEL IP54 UGR19 TW 1200x300 4300LM SSC	38	1.18	1.14	1.39	1.06	1.02	1.18
0042710	START PANEL IP54 UGR19 TW 625x625 4300LM SSC	38	1.08	1.05	1.07	1.06	1.05	1.08

**Table 23: Extrapolation coefficients at product level for SSA**

Product code	Product name	Power (W)	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0042159	START Panel UGR19 600x600 3800Lm 830 SSA01D	36	0.96	0.95	0.90	1.00	0.97	0.96
0042160	START Panel UGR19 600x600 4000Lm 840 SSA01D	36	0.96	0.95	0.90	1.00	0.97	0.96
0042163	START Panel UGR19 625x625 3800Lm 830 SSA01D	36	1.03	1.01	0.98	1.00	1.03	1.03
0042164	START Panel UGR19 625x625 4000Lm 840 SSA01D	36	1.03	1.01	0.98	1.00	1.03	1.03
0042165	START Panel UGR19 1200x300 3600Lm 830 SSA01D	36	1.03	1.02	1.03	1.00	1.01	1.03
0042166	START Panel UGR19 1200x300 3800Lm 840 SSA01D	36	1.03	1.02	1.03	1.00	1.01	1.03
0042682	START Panel UGR19 600x600 3800Lm 830 SSA03	36	1.00	1.00	1.00	1.00	1.00	1.00
0042683	START Panel UGR19 600x600 4000Lm 840 SSA03	36	1.00	1.00	1.00	1.00	1.00	1.00
0042684	START Panel UGR19 600x600 4600Lm 830 SSA03	43	1.02	1.01	1.00	1.19	1.02	1.02
0042685	START Panel UGR19 600x600 4800Lm 840 SSA03	43	1.02	1.01	1.00	1.19	1.02	1.02
0042686	START Panel UGR19 625x625 3800Lm 830 SSA03	36	1.07	1.07	1.07	1.00	1.07	1.07
0042687	START Panel UGR19 625x625 4000Lm 840 SSA03	36	1.07	1.07	1.07	1.00	1.07	1.07
0042688	START Panel UGR19 1200x300 3600Lm 830 SSA03	36	1.17	1.15	1.39	1.00	1.04	1.17
0042689	START Panel UGR19 1200x300 3800Lm 840 SSA03	36	1.17	1.15	1.39	1.00	1.04	1.17

**DA /DALI** Digital Addressable Lighting Interface

**PIR** Passive Infrared Radiation

**SSA** SylSmart connected systems (Silvair)

**SSC** SylSmart connected systems (Casambi)

**TW** Tunable white