

Product Environmental Profile

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



Sylvania Resisto family

Registration number	SYLV-00005-V01.01-EN	Drafting rules	PEP-PCR-ED4-EN-2021 09 06
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Verifier accreditation number	VH44	Information and reference documents	www.pep-ecopassport.org
Date of issue	06.2024	Validity period	5 years
PEP prepared by	Feilo Sylvania Germany GmbH		
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

The SYLVANIA Resisto family is an integrated LED weatherproof luminaire (IP66), with UV stabilized flat diffuser designed to achieve uniform lit appearance, optimise light output and to reduce glare. All types use 301 stainless steel diffuser clips and fixing brackets for surface mounting and has a robust polycarbonate housing and diffuser (impact resistance: IK08), which do not discolour over time. Furthermore, it consists of a LED driver and all types delivered with an accessory bag, consisting of components such as screws and dowels for an easy installation. Within the SYLVANIA Resisto family there are different versions with various functions such as LED drivers, capable to dim the light, a power supply unit, a sensor, an emergency battery and converter, throughwiring, Quick Connector options and smart control functions.

The luminaires are used in the following applications, among others: Emergency operation, light management according to variation of day light, light management according to presence and absence, like SylSmart-enabled versions for greater energy savings and communication with external lighting control system.

Applicable product standards:

- EN 60598-1
- EN 61347-1, 2-13
- EN 62717

Table 1: Key technological data

Information	Unit	
Product code	-	0070799
Light source	-	LED
Power supply	-	External + emergency battery
Colour temperature	Kelvin	4000
Protection index for water and dust (IP)	-	65
Impact resistance index (IK)	-	08
Nominal operating voltage	Volt	220-240
Declared lifetime of the luminaire (L80B20)	Hours	69,000
Declaration lifetime of the light source	Hours	60,000
Useful output flux	Lumen	4200
Total power consumption	Watt	34
Luminous efficiency	Lumen/Watt	124
Length	mm	1588
Width/Diameter	mm	87
Height	mm	80
Reference use scenario	-	All indoor applications

In the reference scenario, the product has 5,000 annual operating hours, resulting in a lifetime of 12 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*	0.139 pieces of product
Life cycle stages covered (according to EN15804+A2)	Cradle-to-grave and Module D
Product category according to PSR	Luminaires
Product family name (if family PEP)	Resisto
All products of the product family (if family PEP)	Table 14 – table 19
Extrapolation rules (if family PEP)	Table 20 – table 25

* 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 correspond to:

$$(1,000/4,200) \times (35,000/60,000) = 0.139$$

2 Constituent materials

2.1 Overview

Table 3: Product composition

Information	Weight [in kg]	Share [in %]
Total weight	3.604	100
Product	3.146	87
Packaging	0.378	10
Additional equipment	0.079	2

2.2 Product

Table 4: Material composition - product

Information	Weight [in kg]	Share [in %]
Total weight	3.148	100
Metals	0.615	20
- Aluminium	0.090	3
- Steel	0.525	17
Plastics	1.112	35
- Polycarbonate (PC)	1.108	35
- Polyamide (PA)	0.003	<1
- Other	0.002	<1
Electronics (incl. wires)	1.416	45
Other	0.003	<1

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 [in kg]	Share [in %]
Total weight	0.379	100
Paper/cardboard	0.378	>99
Plastics	0.001	<1

3 Information on life cycle stages

3.1 Manufacturing (A1-A3)

Most of the product components are produced by the suppliers of Feilo Sylvania GmbH and can be modified - based on customer preferences. A major share of the mechanical and electronic parts are sourced from China followed by Germany, Romania, United Kingdom and Austria.

At the site of Feilo Sylvania in Erlangen (Germany), all parts are assembled, labelled, and tested, before the product is packed for transportation to customers. Feilo Sylvania in Erlangen is also certified to ISO 9001:2015 / 14001:2015 / 45001:2018 / 50001:2018

Steel scrap, plastic stripes, waste paper and plastic foil (80/20) of the production site is recycled, whereas other waste streams (wood, polymer components and some electronic parts) are considered as waste for incineration with energy recovery.

The energy model used in manufacturing is based on Sphera's Managed LCA Content and primary information on the energy mix of Sylvania (German electricity mix (database 2022)).

3.2 Distribution (A4)

The main market of the product is Europe. For this reason, an Intracontinental transport following PEP-PCR-ed4-EN-2021 09 06 is considered (3,500 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
Fuel type	-	Diesel
Fuel consumption	l/(kg*km)	1.99E-05
Total distance	km	3,500
Capacity utilisation (including empty runs)	%	85
Bulk density of transported products	kg/m3	n.a.
Volume capacity utilisation factor	-	n.a.

3.3 Installation (A5)

The product can easily be installed with hooks and tool free. No energy or material input is required. Packaging waste is incinerated, and the resulting energy gets recovered.

3.4 Use stage (B1-B7)

During the use stage of the product, its battery is maintained every four years according to DIN EN 60598-2-22, what requires the production and disposal of 2 additional batteries (B2). Beside this, the use of the product consumes electricity (B6). The main market of the product is Europe. Consequently, an average European electricity grid mix (by Sphera) has been used for the calculations.

All other modules of the life cycle stage have no environmental impact, since the product has no direct emissions (B1) and includes 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. Primary data regarding the recycling quote of the product have been used. The share of the different end-of-life pathways are shown below and represent an European average. For the energy consumed in material separation, an average European grid mix has been used.

- Incineration without energy recovery: 10.29%
- Incineration with energy recovery: 41.17%
- Landfilling: 10.29%
- Recycling: 38.24%

3.6 Benefits and loads beyond the system boundaries stage (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 re-use	kg/functional unit	0
Total weight going into recycling	kg/functional unit	0.261
- Share from product	%	66
- Share from manufacturing scrap	%	34
Total weight going into incineration with energy recovery	kg/functional unit	0.246
- Share from product	%	75
- Share from packaging	%	21
- Share from upstream packaging & manufacturing scrap	%	4

4 Environmental impacts

4.1 Introduction

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	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

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 (0.501 kg product incl. packaging)

	Total (excluding D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use		End of life			Benefits and loads beyond the system boundaries
		A1	A2	A3	A4	A5	B2	B6	C2	C3	C4	D
GWP - total [kg CO2 eq.]	5.30E+01	4.54E+00	9.23E-02	6.15E-02	1.12E-01	4.90E-02	1.06E+00	4.68E+01	2.87E-02	2.18E-01	3.41E-02	-5.12E-01
GWP - fossil [kg CO2 eq.]	5.25E+01	4.62E+00	9.13E-02	4.70E-02	1.06E-01	3.02E-02	1.06E+00	4.63E+01	2.72E-02	2.18E-01	3.41E-02	-5.40E-01
GWP - biogenic [kg CO2 eq.]	4.64E-01	-8.16E-02	8.86E-04	1.46E-02	5.02E-03	1.88E-02	3.29E-03	5.02E-01	1.28E-03	3.09E-04	-9.86E-06	2.80E-02
GWP - luluc [kg CO2 eq.]	9.21E-03	2.50E-03	1.56E-04	5.80E-06	9.71E-04	4.00E-05	3.15E-04	4.97E-03	2.48E-04	6.12E-06	2.78E-06	-2.51E-04
ODP [kg CFC-11 eq.]	8.69E-10	2.07E-11	8.04E-15	6.81E-13	1.36E-14	5.00E-14	2.75E-12	8.44E-10	3.49E-15	5.03E-13	2.75E-14	-2.44E-12
AP [Mole of H+ eq.]	1.66E-01	3.69E-02	1.45E-03	5.07E-05	1.22E-04	3.07E-05	2.94E-02	9.77E-02	3.13E-05	1.80E-04	2.87E-05	-3.35E-03
EP - freshwater [kg P eq.]	1.91E-04	1.86E-05	7.80E-08	1.20E-07	3.83E-07	4.39E-07	7.47E-07	1.71E-04	9.80E-08	2.26E-07	1.02E-08	-1.52E-06
EP - marine [kg N eq.]	2.90E-02	3.88E-03	6.12E-04	1.89E-05	4.09E-05	1.26E-05	9.32E-04	2.34E-02	1.05E-05	7.42E-05	1.23E-05	-4.65E-04
EP - terrestrial [Mole of N eq.]	3.07E-01	4.24E-02	6.71E-03	2.05E-04	4.83E-04	1.22E-04	1.17E-02	2.44E-01	1.23E-04	8.63E-04	1.44E-04	-5.06E-03
POCP [kg NMVOC eq.]	8.13E-02	1.26E-02	1.67E-03	4.98E-05	1.07E-04	3.17E-05	4.27E-03	6.24E-02	2.72E-05	1.92E-04	3.22E-05	-1.47E-03
ADPE [kg Sb eq.]	8.29E-03	3.15E-03	1.78E-09	4.07E-09	6.90E-09	5.37E-09	5.13E-03	7.09E-06	1.77E-09	3.52E-09	1.21E-10	-1.87E-04
ADPF [MJ]	1.05E+03	6.88E+01	1.13E+00	7.14E-01	1.43E+00	2.14E-01	1.29E+01	9.63E+02	3.65E-01	6.02E-01	3.87E-02	9.45E+00
WDP [m³ world equiv.]	1.15E+01	9.64E-01	3.35E-04	1.87E-03	1.27E-03	3.48E-03	3.19E-01	1.02E+01	3.24E-04	4.68E-02	7.41E-03	-9.96E-02

Table 10: Results indicators describing resource use, waste categories, and output flows per functional unit (0.501 kg product incl. packaging)

	Total (excluding D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use		End of life			Benefits and loads beyond the system boundaries
		A1	A2	A3	A4	A5	B2	B6	C2	C3	C4	D
PERE [MJ]	5.92E+02	1.44E+01	2.11E-02	-6.79E-01	1.04E-01	6.23E-02	2.45E+00	5.75E+02	2.66E-02	3.12E-01	1.38E-02	2.41E+00
PERM [MJ]	9.45E-01	0.00E+00	0.00E+00	9.45E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT [MJ]	5.93E+02	1.44E+01	2.11E-02	2.66E-01	1.04E-01	6.23E-02	2.45E+00	5.75E+02	2.66E-02	3.12E-01	1.38E-02	2.41E+00
PENRE [MJ]	1.04E+03	6.92E+01	1.13E+00	6.71E+00	1.43E+00	2.14E-01	1.29E+01	9.63E+02	3.67E-01	6.02E-01	3.87E-02	6.66E+00
PENRM [MJ]	7.42E+00	0.00E+00	0.00E+00	7.42E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.84E+00
PENRT [MJ]	1.05E+03	6.92E+01	1.13E+00	7.14E-01	1.43E+00	2.14E-01	1.29E+01	9.63E+02	3.67E-01	6.02E-01	3.87E-02	9.50E+00
SM [kg]	1.11E-01	4.13E-02	0.00E+00	0.00E+00	0.00E+00	1.88E-02	0.00E+00	0.00E+00	0.00E+00	5.10E-02	0.00E+00	3.67E-02
RSF [MJ]	1.09E-01	0.00E+00	1.22E-02	0.00E+00	7.67E-02	2.30E-04	0.00E+00	0.00E+00	1.96E-02	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	2.53E+00	0.00E+00	1.01E+00	0.00E+00	1.20E+00	3.61E-03	0.00E+00	0.00E+00	3.08E-01	0.00E+00	0.00E+00	0.00E+00
FW [m3]	5.13E-01	3.70E-02	2.38E-05	9.75E-05	1.14E-04	2.55E-04	9.31E-03	4.65E-01	2.91E-05	1.20E-03	1.76E-04	-6.58E-03
HWD [kg]	6.91E-07	7.42E-07	3.47E-12	5.68E-11	4.44E-12	5.81E-09	1.89E-08	-7.53E-08	1.14E-12	-3.04E-11	-3.70E-13	-4.82E-09
NHWD [kg]	1.80E+00	3.95E-01	1.18E-04	5.84E-04	2.19E-04	1.22E-02	5.84E-01	7.05E-01	5.59E-05	5.00E-02	5.38E-02	-2.35E-02
RWD [kg]	1.55E-01	1.84E-03	1.64E-06	1.12E-05	2.68E-06	8.37E-06	2.64E-04	1.53E-01	6.86E-07	7.15E-05	1.37E-06	-2.54E-04
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR [kg]	1.91E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-02	0.00E+00	0.00E+00	0.00E+00	1.71E-01	0.00E+00	0.00E+00
MER [kg]	2.07E-01	0.00E+00	0.00E+00	8.88E-03	0.00E+00	1.35E-02	0.00E+00	0.00E+00	0.00E+00	1.85E-01	0.00E+00	0.00E+00
EEE [MJ]	3.06E-01	6.19E-03	0.00E+00	2.01E-02	0.00E+00	4.99E-02	0.00E+00	0.00E+00	0.00E+00	2.29E-01	0.00E+00	-1.99E-02
EET [MJ]	6.66E-01	1.43E-02	0.00E+00	3.62E-02	0.00E+00	8.09E-02	0.00E+00	0.00E+00	0.00E+00	5.34E-01	0.00E+00	-4.61E-02
Biog. C in product [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biog. C in packaging [kg]	2.26E-02	0.00E+00	0.00E+00	2.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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 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 11: Results core environmental impact indicators per unit of product

	Total (excluding D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use		End of life			Benefits and loads beyond the system boundaries
		A1	A2	A3	A4	A5	B2	B6	C2	C3	C4	D
GWP - total [kg CO2 eq.]	3.81E+02	3.26E+01	6.64E-01	4.43E-01	8.08E-01	3.52E-01	7.65E+00	3.37E+02	2.07E-01	1.57E+00	2.46E-01	-3.69E+00
GWP - fossil [kg CO2 eq.]	3.78E+02	3.32E+01	6.57E-01	3.38E-01	7.65E-01	2.17E-01	7.62E+00	3.33E+02	1.96E-01	1.57E+00	2.46E-01	-3.89E+00
GWP - biogenic [kg CO2 eq.]	3.34E+00	-5.87E-01	6.37E-03	1.05E-01	3.61E-02	1.35E-01	2.36E-02	3.61E+00	9.24E-03	2.22E-03	-7.09E-05	2.01E-01
GWP - luluc [kg CO2 eq.]	6.63E-02	1.80E-02	1.12E-03	4.17E-05	6.99E-03	2.88E-04	2.26E-03	3.58E-02	1.79E-03	4.41E-05	2.00E-05	-1.80E-03
ODP [kg CFC-11 eq.]	6.25E-09	1.49E-10	5.79E-14	4.90E-12	9.81E-14	3.60E-13	1.98E-11	6.07E-09	2.51E-14	3.62E-12	1.98E-13	-1.75E-11
AP [Mole of H+ eq.]	1.19E+00	2.66E-01	1.04E-02	3.65E-04	8.79E-04	2.21E-04	2.12E-01	7.03E-01	2.25E-04	1.30E-03	2.06E-04	-2.41E-02
EP - freshwater [kg P eq.]	1.38E-03	1.34E-04	5.61E-07	8.62E-07	2.76E-06	3.16E-06	5.37E-06	1.23E-03	7.05E-07	1.63E-06	7.34E-08	-1.09E-05
EP - marine [kg N eq.]	2.08E-01	2.79E-02	4.40E-03	1.36E-04	2.95E-04	9.04E-05	6.71E-03	1.68E-01	7.53E-05	5.34E-04	8.84E-05	-3.34E-03
EP - terrestrial [Mole of N eq.]	2.21E+00	3.05E-01	4.83E-02	1.47E-03	3.47E-03	8.78E-04	8.40E-02	1.76E+00	8.88E-04	6.21E-03	1.04E-03	-3.64E-02
POCP [kg NMVOC eq.]	5.85E-01	9.03E-02	1.20E-02	3.58E-04	7.66E-04	2.28E-04	3.07E-02	4.49E-01	1.96E-04	1.38E-03	2.31E-04	-1.06E-02
ADPE [kg Sb eq.]	5.96E-02	2.27E-02	1.28E-08	2.93E-08	4.97E-08	3.86E-08	3.69E-02	5.10E-05	1.27E-08	2.53E-08	8.74E-10	-1.34E-03
ADPF [MJ]	7.54E+03	4.95E+02	8.10E+00	5.14E+00	1.03E+01	1.54E+00	9.29E+01	6.92E+03	2.63E+00	4.33E+00	2.79E-01	6.80E+01
WDP [m³ world equiv.]	8.30E+01	6.94E+00	2.41E-03	1.35E-02	9.11E-03	2.51E-02	2.30E+00	7.33E+01	2.33E-03	3.37E-01	5.33E-02	-7.16E-01

Table 12: Results indicators describing resource use, waste categories, and output flows per unit of product

	Total (excluding D)	Raw materials & parts		Manufacturing	Distribution	Installation	Use		End of life			Benefits and loads beyond the system boundaries
		A1	A2	A3	A4	A5	B2	B6	C2	C3	C4	D
PERE [MJ]	4.26E+03	1.04E+02	1.52E-01	4.88E+00	7.48E-01	4.48E-01	1.77E+01	4.14E+03	1.91E-01	2.25E+00	9.91E-02	1.73E+01
PERM [MJ]	6.80E+00	0.00E+00	0.00E+00	6.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT [MJ]	4.27E+03	1.04E+02	1.52E-01	1.92E+00	7.48E-01	4.48E-01	1.77E+01	4.14E+03	1.91E-01	2.25E+00	9.91E-02	1.73E+01
PENRE [MJ]	7.50E+03	4.98E+02	8.12E+00	4.82E+01	1.03E+01	1.54E+00	9.31E+01	6.93E+03	2.64E+00	4.33E+00	2.78E-01	4.79E+01
PENRM [MJ]	5.34E+01	0.00E+00	0.00E+00	5.34E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E+01
PENRT [MJ]	7.55E+03	4.98E+02	8.12E+00	5.14E+00	1.03E+01	1.54E+00	9.31E+01	6.93E+03	2.64E+00	4.33E+00	2.78E-01	6.83E+01
SM [kg]	7.99E-01	2.97E-01	0.00E+00	0.00E+00	0.00E+00	1.36E-01	0.00E+00	0.00E+00	0.00E+00	3.67E-01	0.00E+00	2.64E-01
RSF [MJ]	7.83E-01	0.00E+00	8.81E-02	0.00E+00	5.52E-01	1.65E-03	0.00E+00	0.00E+00	1.41E-01	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	1.82E+01	0.00E+00	7.28E+00	0.00E+00	8.66E+00	2.60E-02	0.00E+00	0.00E+00	2.21E+00	0.00E+00	0.00E+00	0.00E+00
FW [m3]	3.69E+00	2.66E-01	1.71E-04	7.01E-04	8.19E-04	1.83E-03	6.70E-02	3.34E+00	2.09E-04	8.64E-03	1.26E-03	-4.74E-02
HWD [kg]	4.97E-06	5.34E-06	2.49E-11	4.09E-10	3.19E-11	4.18E-08	1.36E-07	-5.42E-07	8.17E-12	-2.19E-10	-2.66E-12	-3.47E-08
NHWD [kg]	1.30E+01	2.84E+00	8.48E-04	4.20E-03	1.57E-03	8.78E-02	4.20E+00	5.07E+00	4.02E-04	3.60E-01	3.87E-01	-1.69E-01
RWD [kg]	1.12E+00	1.33E-02	1.18E-05	8.04E-05	1.93E-05	6.02E-05	1.90E-03	1.10E+00	4.94E-06	5.14E-04	9.87E-06	-1.82E-03
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR [kg]	1.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-01	0.00E+00	0.00E+00	0.00E+00	1.23E+00	0.00E+00	0.00E+00
MER [kg]	1.49E+00	0.00E+00	0.00E+00	6.39E-02	0.00E+00	9.71E-02	0.00E+00	0.00E+00	0.00E+00	1.33E+00	0.00E+00	0.00E+00
EEE [MJ]	2.20E+00	4.45E-02	0.00E+00	1.45E-01	0.00E+00	3.59E-01	0.00E+00	0.00E+00	0.00E+00	1.65E+00	0.00E+00	-1.43E-01
EET [MJ]	4.79E+00	1.03E-01	0.00E+00	2.61E-01	0.00E+00	5.82E-01	0.00E+00	0.00E+00	0.00E+00	3.84E+00	0.00E+00	-3.31E-01
Biog. C in product [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biog. C in packaging [kg]	1.62E-01	0.00E+00	0.00E+00	1.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

4.4 Data quality

The underlying LCA model has been developed in Sphera's LCA software LCA for Experts 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 = 2.22).

The individual rating for technological and geographical representativeness is assessed as good (DQR = 2.54;2.32).

5 Extrapolation rules

The extrapolation coefficients included in the PEP Eco-passport have been developed according to the valid PCR & PSR. Table 13 shows the key properties of the reference product, function as extrapolation basis.

Table 13: Reference values for extrapolations

Parameter	Unit	Value Reference
Weight of luminaire structure / mechanical parts	kg	1,7304
Weight of control gear	kg	1,1292
Weight of light source	kg	0,0698
Weight of light management system	kg	0,2168
Weight of packaging	kg	0,3780
Weight of product (excl. packaging)	kg	3,1460
Weight of product (incl. packaging)	kg	3,6040
Typical power consumption	W	34
Lumen output	lm	4200
Energy saving coefficient	---	0,5

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

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

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

Table 14: Information for product family (Length: 600mm + 1200mm / Type: Constant current)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packaging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light management weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coefficient
0010202	RESISTO 600 IP66 1600lm 840	12	1600	0,753	0,159	0,069	0,032	0,000	0,000	1,013	1,000
0010203	RESISTO 600 IP66 2500 840	19	2500	0,725	0,159	0,117	0,032	0,000	0,000	1,033	1,000
0010204	RESISTO 600 IP66 1600 865	12	1600	0,753	0,159	0,069	0,032	0,000	0,000	1,013	1,000
0010205	RESISTO 600 IP66 2500 865	19	2500	0,725	0,159	0,117	0,032	0,000	0,000	1,033	1,000
0010206	RESISTO 600 HE IP66 1400 840	10	1400	0,753	0,159	0,069	0,032	0,000	0,000	1,013	1,000
0010207	RESISTO 600 HE IP66 2500 840	16	2500	0,725	0,159	0,117	0,032	0,000	0,000	1,033	1,000
0010208	RESISTO 1200 IP66 2800 830	20	2800	1,277	0,259	0,117	0,060	0,000	0,000	1,713	1,000
0010209	RESISTO 1200 IP66 5000 830	36	5000	1,280	0,259	0,130	0,060	0,000	0,000	1,729	1,000
0010210	RESISTO 1200 IP66 2800lm 840	20	2800	1,277	0,259	0,117	0,060	0,000	0,000	1,713	1,000
0010211	RESISTO 1200 IP66 5000lm 840	36	5000	1,278	0,259	0,128	0,060	0,000	0,000	1,725	1,000
0010212	RESISTO 1200 IP66 2800 865	20	2800	1,277	0,259	0,117	0,060	0,000	0,000	1,713	1,000
0010213	RESISTO 1200 IP66 5000 865	36	5000	1,280	0,259	0,130	0,060	0,000	0,000	1,729	1,000
0010214	RESISTO 1200 IP66 2800lm 840 QC	20	2800	1,277	0,259	0,183	0,060	0,000	0,000	1,779	1,000
0010215	RESISTO 1200 IP66 5000lm 840 QC	36	5000	1,277	0,259	0,196	0,060	0,000	0,000	1,792	1,000
0010216	RESISTO 1200 IP66 2800 840 5xTH	20	2800	1,291	0,263	0,288	0,060	0,000	0,000	1,902	1,000
0010217	RESISTO 1200 IP66 5000lm 840 5xTH	36	5000	1,293	0,263	0,299	0,060	0,000	0,000	1,914	1,000
0010232	RESISTO 1200 HE IP66 2800 840	18	2800	1,277	0,259	0,117	0,060	0,000	0,000	1,713	1,000
0010233	RESISTO 1200 HE IP66 4800 840	31	4800	1,278	0,259	0,128	0,060	0,000	0,000	1,725	1,000

Table 15: Information for product family (Length: 1500mm / Type: Constant current)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packaging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light management weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coefficient
0010240	RESISTO 1500 IP66 4200LM 830	30	4200	1,636	0,299	0,128	0,070	0,000	0,000	2,133	1,000
0010241	RESISTO 1500 IP66 7600LM 830	55	7600	1,635	0,299	0,170	0,070	0,000	0,000	2,174	1,000
0010242	RESISTO 1500 IP66 8500LM 830	61	8500	1,635	0,299	0,170	0,070	0,000	0,000	2,174	1,000
0010243	RESISTO 1500 IP66 4200LM 840	30	4200	1,636	0,299	0,128	0,070	0,000	0,000	2,133	1,000
0010244	RESISTO 1500 IP66 7600LM 840	55	7600	1,635	0,299	0,170	0,070	0,000	0,000	2,174	1,000
0010245	RESISTO 1500 IP66 8500LM 840	61	8500	1,635	0,299	0,170	0,070	0,000	0,000	2,174	1,000
0010246	RESISTO 1500 IP66 4200LM 865	30	4200	1,636	0,299	0,128	0,070	0,000	0,000	2,133	1,000
0010247	RESISTO 1500 IP66 7600LM 865	55	7600	1,635	0,299	0,170	0,070	0,000	0,000	2,174	1,000
0010248	RESISTO 1500 IP66 8500LM 865	61	8500	1,635	0,299	0,170	0,070	0,000	0,000	2,174	1,000
0010249	RESISTO 1500 IP66 4200LM 840 QC	30	4200	1,635	0,303	0,194	0,070	0,000	0,000	2,202	1,000
0010250	RESISTO 1500 IP66 7600LM 840 QC	55	7600	1,635	0,303	0,236	0,070	0,000	0,000	2,244	1,000
0010251	RESISTO 1500 IP66 4200LM 840 5TH	30	4200	1,650	0,303	0,350	0,070	0,000	0,000	2,372	1,000
0010252	RESISTO 1500 IP66 7600LM 840 5TH	55	7600	1,650	0,303	0,392	0,070	0,000	0,000	2,414	1,000
0010268	RESISTO 1500 HE IP66 4000LM 840	25	4000	1,635	0,299	0,128	0,070	0,000	0,000	2,132	1,000
0010269	RESISTO 1500 HE IP66 7100LM 840	46	7100	1,639	0,299	0,157	0,070	0,000	0,000	2,165	1,000
0010270	RESISTO 1500 HE IP66 10K 840	60	10,000	1,639	0,299	0,170	0,070	0,000	0,000	2,178	1,000
0010278	RESISTO 1500 IP66 HE 8300LM 840	54	8,300	1,635	0,299	0,142	0,070	0,000	0,000	2,146	1,000

Table 16: Information for product family (Length: 1200mm + 1500mm / Type: EM + EM DA)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packaging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light management weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coefficient
0010218	RESISTO 1200 IP66 2800 840 EM	24	2800	1,281	0,267	0,709	0,062	0,000	0,500	2,318	1,000
0010219	RESISTO 1200 IP66 5000 840 EM	40	5000	1,281	0,267	0,720	0,062	0,000	0,500	2,329	1,000
0010234	RESISTO 1200HE IP66 2800 840 EM	22	2800	1,281	0,267	0,709	0,062	0,000	0,500	2,318	1,000
0010235	RESISTO 1200HE IP66 4800 840 EM	35	4800	1,281	0,267	0,720	0,060	0,000	0,500	2,327	1,000
0010280	RESISTO 1200H IP66 DA 2800 840 EM	22	2800	1,283	0,267	0,734	0,062	0,013	0,500	2,358	0,750
0010281	RESISTO 1200H IP66 DA 4800 840 EM	35	4800	1,283	0,267	0,818	0,062	0,013	0,500	2,442	0,750
0010253	RESISTO 1500 IP66 4200LM 840 EM	34	4200	1,639	0,307	0,734	0,077	0,000	0,500	2,756	1,000
0010254	RESISTO 1500 IP66 7600LM 840 EM	59	7600	1,639	0,307	0,767	0,077	0,000	0,500	2,790	1,000
0010271	RESISTO 1500 HE IP66 4000LM 840 EM	29	4000	1,639	0,307	0,734	0,076	0,000	0,500	2,756	1,000
0010272	RESISTO 1500 HE IP66 7100LM 840 EM	50	7100	1,640	0,306	0,766	0,077	0,000	0,500	2,789	1,000
0010282	RESISTO 1500H IP66 DA 4000 840 EM	29	4000	1,640	0,307	0,832	0,077	0,013	0,500	2,868	0,750
0010283	RESISTO 1500H IP66 DA 7100 840 EM	50	7100	1,736	0,307	0,843	0,074	0,013	0,500	2,973	0,750

Table 17: Information for product family (Length: 1200mm + 1500mm / Type: DA + DA TH)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packaging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light management weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coefficient
0010224	RESISTO 1200 IP66 DA 2800 840	20	2800	1,278	0,259	0,212	0,060	0,016	0,000	1,825	0,750
0010225	RESISTO 1200 IP66 DA 5000 840	36	5000	1,309	0,259	0,215	0,060	0,016	0,000	1,859	0,750
0010236	RESISTO 1200H IP66 DA 2800 840	18	2800	1,275	0,259	0,132	0,060	0,019	0,000	1,744	0,750
0010237	RESISTO 1200H IP66 DA 4800 840	31	4800	1,278	0,259	0,212	0,060	0,016	0,000	1,825	0,750
0010284	RESISTO 1200 IP66D 2800 840 TH	20	2800	1,293	0,263	0,367	0,060	0,030	0,000	2,012	0,750
0010285	RESISTO 1200 IP66D 5000 840 TH	36	5000	1,324	0,263	0,370	0,060	0,030	0,000	2,046	0,750
0010259	RESISTO 1500 IP66 DALI 4200LM 840	30	4200	1,635	0,299	0,212	0,070	0,016	0,000	2,232	0,750
0010260	RESISTO 1500 IP66 DALI 7600LM 840	55	7600	1,732	0,299	0,223	0,069	0,019	0,000	2,341	0,750
0010261	RESISTO 1500 IP66 DALI 8500LM 840	61	8500	1,732	0,299	0,223	0,069	0,019	0,000	2,341	0,750
0010273	RESISTO 1500 HE IP66 DALI 4000LM 840	25	4000	1,635	0,299	0,212	0,070	0,016	0,000	2,232	0,750
0010274	RESISTO 1500 HE IP66 DALI 7100LM 840	46	7100	1,732	0,299	0,220	0,069	0,019	0,000	2,338	0,750
0010275	RESISTO 1500 HE IP66 DALI 10K 840	60	10,000	1,732	0,299	0,223	0,069	0,019	0,000	2,341	0,750
0010279	RESISTO 1500 IP66 HE DALI 8300LM 840	54	8,300	1,732	0,299	0,223	0,069	0,019	0,000	2,341	0,750
0010286	RESISTO 1500 IP66D 4200 840 TH	30	4,200	1,650	0,303	0,417	0,070	0,030	0,000	2,470	0,750
0010287	RESISTO 1500 IP66D 7600 840 TH	55	7,600	1,747	0,303	0,428	0,069	0,033	0,000	2,579	0,750

Table 18: Information for product family (Length: 1200mm + 1500mm / Type: MW + MWC)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packaging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light management weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coefficient
0010220	RESISTO 1200 IP66 MW 2800 840	20	2800	1,277	0,263	0,118	0,060	0,051	0,000	1,769	0,750
0010221	RESISTO 1200 IP66 MW 5000 840	36	5000	1,277	0,263	0,131	0,060	0,051	0,000	1,781	0,750
0010222	RESISTO 1200 IP66 MWC 2800 840	20	2800	1,278	0,263	0,225	0,060	0,051	0,000	1,876	0,550
0010223	RESISTO 1200 IP66 MWC 5000 840	36	5000	1,311	0,263	0,228	0,060	0,051	0,000	1,912	0,550
0010255	RESISTO 1500 IP66 MW 4200LM 840	30	4200	1,636	0,303	0,128	0,070	0,051	0,000	2,188	0,750
0010256	RESISTO 1500 IP66 MW 7600LM 840	55	7600	1,636	0,303	0,170	0,070	0,051	0,000	2,230	0,750
0010257	RESISTO 1500 IP66 MWC 4200 840	30	4200	1,636	0,303	0,225	0,070	0,051	0,000	2,284	0,550
0010258	RESISTO 1500 IP66 MWC 7600 840	55	7600	1,732	0,303	0,238	0,070	0,051	0,000	2,394	0,550

Table 19: Information for product family (Length: 1200mm + 1500mm / Type: SSA + SSC (-S) + SSE)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packaging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light management weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coefficient
0010230	RESISTO 1200 IP65 2800 840 SSA	20	2800	1,335	0,327	0,435	0,060	0,130	0,000	2,287	0,500
0010231	RESISTO 1200 IP65 5000 840 SSA	36	5000	1,331	0,333	0,467	0,060	0,144	0,000	2,334	0,500
0010266	RESISTO 1500 IP66 4200LM 840 SSA	30	4200	1,790	0,367	0,486	0,070	0,143	0,000	2,855	0,500
0010267	RESISTO 1500 IP66 7600LM 840 SSA	55	7600	1,790	0,367	0,486	0,070	0,143	0,000	2,855	0,500
0010226	RESISTO 1200 IP66 2800 840 SSC	22	2800	1,278	0,263	0,227	0,060	0,059	0,000	1,887	0,500
0010227	RESISTO 1200 IP66 5000 840 SSC	38	5000	1,309	0,263	0,231	0,060	0,059	0,000	1,921	0,500
0010228	RESISTO 1200 IP65 2800 840 SSC S	24	2800	1,297	0,327	0,232	0,060	0,182	0,000	2,097	0,500
0010229	RESISTO 1200 IP65 5000 840 SSC S	40	5000	1,328	0,327	0,235	0,060	0,182	0,000	2,131	0,500
0010262	RESISTO 1500 IP66 4200LM 840 SSC	32	4200	1,638	0,303	0,227	0,070	0,064	0,000	2,301	0,500
0010263	RESISTO 1500 IP66 7600LM 840 SSC	57	7600	1,732	0,303	0,236	0,070	0,058	0,000	2,398	0,500
0010264	RESISTO 1500 IP66 4200LM 840 SSC S	34	4200	1,655	0,363	0,272	0,070	0,154	0,000	2,513	0,500
0010265	RESISTO 1500 IP66 7600LM 840 SSC S	59	7600	1,751	0,367	0,278	0,070	0,154	0,000	2,619	0,500
0010276	RESISTO HE 1500 IP66 4000LM 840 SSE	26	4000	1,686	0,367	0,251	0,070	0,121	0,000	2,495	0,500
0010277	RESISTO HE 1500 IP66 7100LM 840 SSE	47	7100	1,784	0,367	0,270	0,070	0,121	0,000	2,612	0,500
0010238	RESISTO 1200HE IP66 2800LM 840 SSE	20	2800	1,325	0,327	0,324	0,060	0,121	0,000	2,156	0,500
0010239	RESISTO 1200HE IP66 4800LM 840 SSE	32	4800	1,325	0,327	0,251	0,060	0,121	0,000	2,084	0,500

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

Table 20: Extrapolation coefficients at product level (Length: 600mm + 1200mm / Type: Constant current)

Product code	Product name	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	replacing control gear (B2)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010202	RESISTO 600 IP66 1600LM 840	0,28	0,28	0,42	0	0,71	0,26	0,28
0010203	RESISTO 600 IP66 2500 840	0,29	0,29	0,42	0	1,12	0,27	0,29
0010204	RESISTO 600 IP66 1600 865	0,28	0,28	0,42	0	0,71	0,26	0,28
0010205	RESISTO 600 IP66 2500 865	0,29	0,29	0,42	0	1,12	0,27	0,29
0010206	RESISTO 600 HE IP66 1400 840	0,28	0,28	0,42	0	0,59	0,26	0,28
0010207	RESISTO 600 HE IP66 2500 840	0,29	0,29	0,42	0	0,94	0,27	0,29
0010208	RESISTO 1200 IP66 2800 830	0,48	0,48	0,69	0	1,18	0,45	0,48
0010209	RESISTO 1200 IP66 5000 830	0,48	0,48	0,69	0	2,12	0,46	0,48
0010210	RESISTO 1200 IP66 2800lm 840	0,48	0,48	0,69	0	1,18	0,45	0,48
0010211	RESISTO 1200 IP66 5000lm 840	0,48	0,48	0,69	0	2,12	0,45	0,48
0010212	RESISTO 1200 IP66 2800 865	0,48	0,48	0,69	0	1,18	0,45	0,48
0010213	RESISTO 1200 IP66 5000 865	0,48	0,48	0,69	0	2,12	0,46	0,48
0010214	RESISTO 1200 IP66 2800lm 840 QC	0,49	0,49	0,69	0	1,18	0,47	0,49
0010215	RESISTO 1200 IP66 5000lm 840 QC	0,50	0,50	0,69	0	2,12	0,48	0,50
0010216	RESISTO 1200 IP66 2800 840 5xTH	0,53	0,53	0,69	0	1,18	0,51	0,53
0010217	RESISTO 1200 IP66 5000lm 840 5xTH	0,53	0,53	0,69	0	2,12	0,51	0,53
0010232	RESISTO 1200 HE IP66 2800 840	0,48	0,48	0,69	0	1,06	0,45	0,48
0010233	RESISTO 1200 HE IP66 4800 840	0,48	0,48	0,69	0	1,82	0,45	0,48

Table 21: Extrapolation coefficients at product level (Length: 1500mm / Type: Constant current)

Product code	Product name	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	replacing control gear (B2)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010240	RESISTO 1500 IP66 4200LM 830	0,59	0,59	0,79	0	1,76	0,57	0,59
0010241	RESISTO 1500 IP66 7600LM 830	0,60	0,60	0,79	0	3,24	0,58	0,60
0010242	RESISTO 1500 IP66 8500LM 830	0,60	0,60	0,79	0	3,59	0,58	0,60
0010243	RESISTO 1500 IP66 4200LM 840	0,59	0,59	0,79	0	1,76	0,57	0,59
0010244	RESISTO 1500 IP66 7600LM 840	0,60	0,60	0,79	0	3,24	0,58	0,60
0010245	RESISTO 1500 IP66 8500LM 840	0,60	0,60	0,79	0	3,59	0,58	0,60
0010246	RESISTO 1500 IP66 4200LM 865	0,59	0,59	0,79	0	1,76	0,57	0,59
0010247	RESISTO 1500 IP66 7600LM 865	0,60	0,60	0,79	0	3,24	0,58	0,60
0010248	RESISTO 1500 IP66 8500LM 865	0,60	0,60	0,79	0	3,59	0,58	0,60
0010249	RESISTO 1500 IP66 4200LM 840 QC	0,61	0,61	0,80	0	1,76	0,59	0,61
0010250	RESISTO 1500 IP66 7600LM 840 QC	0,62	0,62	0,80	0	3,24	0,60	0,62
0010251	RESISTO 1500 IP66 4200LM 840 5TH	0,66	0,66	0,80	0	1,76	0,64	0,66
0010252	RESISTO 1500 IP66 7600LM 840 5TH	0,67	0,67	0,80	0	3,24	0,65	0,67
0010268	RESISTO 1500 HE IP66 4000LM 840	0,59	0,59	0,79	0	1,47	0,57	0,59
0010269	RESISTO 1500 HE IP66 7100LM 840	0,60	0,60	0,79	0	2,71	0,58	0,60
0010270	RESISTO 1500 HE IP66 10K 840	0,60	0,60	0,79	0	3,53	0,58	0,60
0010278	RESISTO 1500 IP66 HE 8300LM 840	0,60	0,60	0,79	0	3,18	0,57	0,60

Table 22: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: EM + EM DA)

Product code	Product name	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	replacing control gear (B2)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010218	RESISTO 1200 IP66 2800 840 EM	0,64	0,64	0,71	2	1,41	0,64	0,64
0010219	RESISTO 1200 IP66 5000 840 EM	0,65	0,65	0,71	2	2,35	0,64	0,65
0010234	RESISTO 1200HE IP66 2800 840 EM	0,64	0,64	0,71	2	1,29	0,64	0,64
0010235	RESISTO 1200HE IP66 4800 840 EM	0,65	0,65	0,71	2	2,06	0,64	0,65
0010280	RESISTO 1200H IP66 DA 2800 840 EM	0,65	0,65	0,71	2	0,97	0,65	0,65
0010281	RESISTO 1200H IP66 DA 4800 840 EM	0,68	0,68	0,71	2	1,54	0,67	0,68
0010253	RESISTO 1500 IP66 4200LM 840 EM	0,76	0,76	0,81	2,00	2,00	0,76	0,76
0010254	RESISTO 1500 IP66 7600LM 840 EM	0,77	0,77	0,81	2,00	3,47	0,77	0,77
0010271	RESISTO 1500 HE IP66 4000LM 840 EM	0,76	0,76	0,81	2,00	1,71	0,76	0,76
0010272	RESISTO 1500 HE IP66 7100LM 840 EM	0,77	0,77	0,81	2,00	2,94	0,77	0,77
0010282	RESISTO 1500H IP66 DA 4000 840 EM	0,80	0,80	0,81	2,00	1,28	0,79	0,80
0010283	RESISTO 1500H IP66 DA 7100 840 EM	0,83	0,83	0,81	2,00	2,21	0,83	0,83

Table 23: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: DA + DA TH)

Product code	Product name	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	replacing control gear (B2)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010224	RESISTO 1200 IP66 DA 2800 840	0,51	0,51	0,69	0	0,88	0,49	0,51
0010225	RESISTO 1200 IP66 DA 5000 840	0,52	0,52	0,69	0	1,59	0,50	0,52
0010236	RESISTO 1200H IP66 DA 2800 840	0,48	0,48	0,69	0	0,79	0,46	0,48
0010237	RESISTO 1200H IP66 DA 4800 840	0,51	0,51	0,69	0	1,37	0,49	0,51
0010284	RESISTO 1200 IP66D 2800 840 TH	0,56	0,56	0,69	0	0,88	0,54	0,56
0010285	RESISTO 1200 IP66D 5000 840 TH	0,57	0,57	0,69	0	1,59	0,55	0,57
0010259	RESISTO 1500 IP66 DALI 4200LM 840	0,62	0,62	0,79	0	1,32	0,60	0,62
0010260	RESISTO 1500 IP66 DALI 7600LM 840	0,65	0,65	0,79	0	2,43	0,63	0,65
0010261	RESISTO 1500 IP66 DALI 8500LM 840	0,65	0,65	0,79	0	2,69	0,63	0,65
0010273	RESISTO 1500 HE IP66 DALI 4000LM 840	0,62	0,62	0,79	0	1,10	0,60	0,62
0010274	RESISTO 1500 HE IP66 DALI 7100LM 840	0,65	0,65	0,79	0	2,03	0,63	0,65
0010275	RESISTO 1500 HE IP66 DALI 10K 840	0,65	0,65	0,79	0	2,65	0,63	0,65
0010279	RESISTO 1500 IP66 HE DALI 8300LM 840	0,65	0,65	0,79	0	2,38	0,63	0,65
0010286	RESISTO 1500 IP66D 4200 840 TH	0,69	0,69	0,80	0	1,32	0,67	0,69
0010287	RESISTO 1500 IP66D 7600 840 TH	0,72	0,72	0,80	0	2,43	0,71	0,72

Table 24: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: MW + MWC)

Product code	Product name	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	replacing control gear (B2)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010220	RESISTO 1200 IP66 MW 2800 840	0,49	0,49	0,69	0	0,88	0,47	0,49
0010221	RESISTO 1200 IP66 MW 5000 840	0,49	0,49	0,69	0	1,59	0,47	0,49
0010222	RESISTO 1200 IP66 MWC 2800 840	0,52	0,52	0,69	0	0,65	0,50	0,52
0010223	RESISTO 1200 IP66 MWC 5000 840	0,53	0,53	0,69	0	1,16	0,51	0,53
0010255	RESISTO 1500 IP66 MW 4200LM 840	0,61	0,61	0,80	0	1,32	0,58	0,61
0010256	RESISTO 1500 IP66 MW 7600LM 840	0,62	0,62	0,80	0	2,43	0,60	0,62
0010257	RESISTO 1500 IP66 MWC 4200 840	0,63	0,63	0,80	0	0,97	0,61	0,63
0010258	RESISTO 1500 IP66 MWC 7600 840	0,66	0,66	0,80	0	1,78	0,65	0,66

Table 25: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: SSA + SSC (-S) + SSE)

Product code	Product name	Manufacturing stage (A1-A3)	distribution stage (A4)	installation stage (A5)	replacing control gear (B2)	use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010230	RESISTO 1200 IP65 2800 840 SSA	0,63	0,63	0,86	0	0,59	0,61	0,63
0010231	RESISTO 1200 IP65 5000 840 SSA	0,65	0,65	0,88	0	1,06	0,62	0,65
0010266	RESISTO 1500 IP66 4200LM 840 SSA	0,79	0,79	0,97	0	0,88	0,77	0,79
0010267	RESISTO 1500 IP66 7600LM 840 SSA	0,79	0,79	0,97	0	1,62	0,77	0,79
0010226	RESISTO 1200 IP66 2800 840 SSC	0,52	0,52	0,69	0	0,65	0,50	0,52
0010227	RESISTO 1200 IP66 5000 840 SSC	0,53	0,53	0,69	0	1,12	0,51	0,53
0010228	RESISTO 1200 IP65 2800 840 SSC S	0,58	0,58	0,86	0	0,71	0,55	0,58
0010229	RESISTO 1200 IP65 5000 840 SSC S	0,59	0,59	0,86	0	1,18	0,56	0,59
0010262	RESISTO 1500 IP66 4200LM 840 SSC	0,64	0,64	0,80	0	0,94	0,62	0,64
0010263	RESISTO 1500 IP66 7600LM 840 SSC	0,67	0,67	0,80	0	1,68	0,65	0,67
0010264	RESISTO 1500 IP66 4200LM 840 SSC S	0,70	0,70	0,96	0	1,00	0,67	0,70
0010265	RESISTO 1500 IP66 7600LM 840 SSC S	0,73	0,73	0,97	0	1,74	0,70	0,73
0010276	RESISTO HE 1500 IP66 4000LM 840 SSE	0,69	0,69	0,97	0	0,76	0,66	0,69
0010277	RESISTO HE 1500 IP66 7100LM 840 SSE	0,72	0,72	0,97	0	1,38	0,70	0,72
0010238	RESISTO 1200HE IP66 2800LM 840 SSE	0,60	0,60	0,86	0	0,59	0,57	0,60
0010239	RESISTO 1200HE IP66 4800LM 840 SSE	0,58	0,58	0,86	0	0,94	0,54	0,58

EM = Emergency

DA = DALI

TH = Throughwiring

MW = MicroWave

MWC = MicroWaveCorridor

SSA = SylSmart connected systems

SSC = SylSmart connected systems

SSC S = SylSmart connected systems

SSE = SylSmart connected systems