Feilo Sylvania International Group Kft.
Duna Tower B building, 3rd floor.
Népfürdő utca 22.
1138 Budapest, Hungary

www.sylvania-group.com
info@sylvania-lighting.com

Product Environmental Profile

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

Sylvania Resisto family

Registration number	SYLV-00005-V01.03-EN	Drafting rules	PEP-PCR–ED4-EN-2021 09 06
		Supplemented by	PSR-0014-ed2.0-EN-2023 07 13
Verifier accreditation number	VH44	Information and reference documents	www.pep-ecopassport.org
Date of issue	04.2023	Validity period	5 years
PEP prepared by	Feilo Sylvania International Group Kft.		
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 microwave motion sensor – now with dedicated corridor function versions, 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

The range of the Sylvania Resisto family includes:

- Non dimmable
- DALI (DA)
- Emergency (EM)
- Microwave (MW)
- SSA
- SSC
- SSE

The size of the luminaire is only variable in terms of length, and there are only 3 sizes available: 1500mm; 1200mm and 600mm.

The Sylvania Resisto family is clustered by the following main technical features:

- Constant current: On / Off
- Emergency (EM): Lighting of the luminaire works for a couple of hours without constant power, too. In that case the light has a lower light intensity
- Emergency with DALI (DA EM): Lighting of the luminaire works for some hours without constant power (with a lower light intensity) together with a DALI lighting management system
- EM PRO: Emergency Professional (high-quality, project-suitable design)
- Microwave (MW): Microwave motion detector
- Microwave with corridor function (MW-cor.): Microwave motion detector with corridor function

- Microwave Emergency (MW EM): Microwave motion detector with luminaire function, which works for a couple of hours without constant power.
- DALI (DA): DALI lighting management system
- DALI Throughwiring (DA - TH): DALI lighting management system together with a throughwiring system, which not only supplies the fed-in electricity to this one light, but also forwards the electricity via the through-wiring to supply further lights behind it.
- SSA: SylSmart connected systems (Silvair)
- SSC: SylSmart connected systems (Casambi)
- SSC S: SylSmart connected systems (Casambi, standalone)
- SSE: SylSmart connected systems (Encelium)

The technological data of the SYLVANIA Reisto reference product "0070799 - Resisto 1500 4200LM 840 SSA EM" are listed below.

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

SYLVANIA Reisto reference product 0070799 are declared with below lifetime:

- L70B50 100,000hrs
- L80B20 60,000hrs
- L90B50 56,650hrs

L80B20 with its 60,000hrs is used for LCA analysis. 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 has a luminous flux of 4.200 lumen and a reference lifetime of 60.000 hours (5000h/year for 12 years)

The reference flow is calculated as:

(1,000/outgoing luminous flux of the analyzed product in lumens) x (35,000/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 shows the overview of the product composition of the reference product; in particular the weight per product and -per functional unit, plus the overall share.

Table 3: Product composition

Information	Weight [kg] / product	Weight [kg] / functional unit	Share [in %]
Total weight	3.604	0,5006	100
Product	3.146	0,4369	87
Packaging	0.378	0,0525	10
Additional equipment	0.079	0,011	2

Note: The weight per product and – per packaging in this table could differs slightly from the total weight of the product due to rounding inaccuracies

2.2 Product

The material composition for the reference product – per se – is summarized in the following table:

Table 4: Material composition - product

Information	Weight [kg] / product	Weight [kg] / functional unit	Share [in %]
Total weight	3.148	0,4372	100
Metals	0.615	0,0854	20
- Aluminium	0.090	0,0125	3
- Steel	0.525	0,0729	17
Plastics	1.112	0,1545	35
- Polycarbonate (PC)	1.108	0,1539	35
- Polyamide (PA)	0.003	$4{,}167*10^{-4}$	<1
- Other	0.002	$2{,}778*10^{-4}$	<1
Electronics (incl. wires)	1.416	0,1967	45
Other	0.003	$4{,}167*10^{-4}$	<1

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

2.3 Packaging

The material composition for the packaging of the reference product is summarized by following table:

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 International Group Kft. 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 V.10 and primary information on the energy mix of Sylvania (German electricity mix (database 2022)).

Primary data on the transport distances and means of transport of tier I suppliers have been collected and used to calculate to an average of:

- 564 km by truck (diesel driven, EURO 0-6, >27t payload, 85% utilization) (for all parts),
- 22.640 km by ship (heavy fuel oil driven, container ship, 5,000 to 200,000 dwt payload capacity, deep sea), from harbour of supplier to harbour of destination.
- 50 km by train (...seeing in GaBi) (only for EU-parts)

Upstream packaging materials are included as individual groups with the same average distribution distance as the upstream accessories, since it represents the most conservative scenario.

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

3.3 Installation (A5)

Each of the Sylvania Resisto family product can easily be installed with hooks and tool free. No energy or material input is required. Packaging waste is recovered refer to chapter 3.5.3.1 of PSR-0014-ed2.0-2023.

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 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 6 function type series of SYLVANIA Resisto family are:

	Constant current	DALI	MW	MW EM	MW cor.	SSA, SSC, SSE
Energy saving	1	0,75	0,75	0,75	0,55	0,5

The SYLVANIA Resisto reference product 0070799 is grouped under SSA series and can work with Sylvania wireless lighting management system Sylsmart Standalone (Silvair). Therefore, the theoretical energy saving coefficient of the reference product is 0.5 – according to PSR-0014-ED2.0-EN-2023 07 13. The declared power consumption of the reference product is 34 Watts, and its assigned lifetime of the light source is 60,000 hours. These data have been provided by Sylvania. Combining all these information leads to a total power consumption of 1,020 kWh. The product is certified based on EN 60598-1.

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. EOL model is created referring to chapter 2.5.6 "End of life treatment scenarios" of PCR-ed4-EN-2021 09 06.

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.

- 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	PEP-PCR-ED4-EN-2021 09 06
PSR 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 (0.5004 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	B2	B6	C2	C3	C4	D
GWP - total [kg CO2 eq.]	5,30E+01	4,53E+00	9,23E-02	1,21E-01	1,12E-01	7,45E-02	1,06E+00	4,68E+01	2,87E-02	2,35E-01	3,41E-02	-5,85E-01
GWP - fossil [kg CO2 eq.]	5,25E+01	4,61E+00	9,12E-02	6,90E-02	1,06E-01	1,96E-03	1,06E+00	4,62E+01	2,72E-02	2,35E-01	3,41E-02	-6,22E-01
GWP - biogenic [kg CO2 eq.]	5,55E-01	-8,16E-02	8,85E-04	5,16E-02	5,02E-03	7,25E-02	3,28E-03	5,01E-01	1,28E-03	4,41E-04	-9,85E-06	3,74E-02
GWP - luluc [kg CO2 eq.]	9,22E-03	2,49E-03	1,56E-04	5,41E-05	9,70E-04	4,17E-07	3,14E-04	4,97E-03	2,48E-04	1,09E-05	2,77E-06	-2,72E-04
ODP [kg CFC-11 eq.]	8,68E-10	2,07E-11	8,04E-15	8,37E-13	1,36E-14	9,17E-15	2,75E-12	8,43E-10	3,49E-15	6,97E-13	2,75E-14	-3,30E-12
AP [Mole of H+ eq.]	1,66E-01	3,69E-02	1,45E-03	4,75E-05	1,22E-04	2,05E-05	2,94E-02	9,76E-02	3,12E-05	2,17E-04	2,86E-05	-3,47E-03
EP - freshwater [kg P eq.]	1,91E-04	1,86E-05	7,80E-08	6,53E-07	3,83E-07	2,87E-09	7,46E-07	1,71E-04	9,80E-08	2,74E-07	1,02E-08	-1,86E-06
EP - marine [kg N eq.]	2,89E-02	3,87E-03	6,12E-04	1,39E-05	4,09E-05	7,47E-06	9,32E-04	2,33E-02	1,05E-05	8,56E-05	1,23E-05	-5,01E-04
EP - terrestrial [Mole of N eq.]	3,07E-01	4,23E-02	6,70E-03	1,44E-04	4,82E-04	9,33E-05	1,17E-02	2,44E-01	1,23E-04	9,86E-04	1,44E-04	-5,44E-03
POCP [kg NMVOC eq.]	8,12E-02	1,25E-02	1,67E-03	6,69E-06	1,06E-04	1,98E-05	4,27E-03	6,23E-02	2,72E-05	2,30E-04	3,21E-05	-1,58E-03
ADPE [kg Sb eq.]	8,28E-03	3,15E-03	1,78E-09	1,11E-08	6,90E-09	8,35E-11	5,13E-03	7,08E-06	1,76E-09	5,63E-09	1,21E-10	-1,87E-04
ADPF [MJ]	1,05E+03	6,88E+01	1,13E+00	1,03E+00	1,43E+00	2,35E-02	1,29E+01	9,62E+02	3,65E-01	8,51E-01	3,87E-02	-1,19E+01
WDP [m³ world equiv.]	1,15E+01	9,63E-01	3,35E-04	3,13E-03	1,27E-03	9,23E-03	3,19E-01	1,02E+01	3,24E-04	4,83E-02	7,40E-03	-1,01E-01

Table 10: Results indicators describing resource use, waste categories, and output flows per functional unit (0.5004 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	B2	B6	C2	C3	C4	D
PERE [MJ]	5,92E+02	1,88E+00	2,11E-02	-6,18E-01	1,04E-01	5,70E-03	2,45E+00	2,45E+00	2,66E-02	4,12E-01	1,38E-02	-2,99E+00
PERM [MJ]	9,44E-01	9,44E-01	0,00E+00	9,44E-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	2,83E+00	2,11E-02	3,27E-01	1,04E-01	5,70E-03	2,45E+00	2,45E+00	2,66E-02	4,12E-01	1,38E-02	-2,99E+00
PENRE [MJ]	1,04E+03	1,42E+01	1,13E+00	-6,38E+00	1,43E+00	2,36E-02	1,29E+01	1,29E+01	3,66E-01	8,51E-01	3,87E-02	-9,09E+00
PENRM [MJ]	7,41E+00	4,58E+00	0,00E+00	7,41E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,83E+00
PENRT [MJ]	1,05E+03	1,88E+01	1,13E+00	1,03E+00	1,43E+00	2,36E-02	1,29E+01	1,29E+01	3,66E-01	8,51E-01	3,87E-02	-1,19E+01
SM [kg]	6,19E-02	2,07E-02	0,00E+00	2,07E-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
RSF [MJ]	1,08E-01	1,08E-01	1,22E-02	0,00E+00	7,66E-02	0,00E+00	0,00E+00	0,00E+00	1,96E-02	0,00E+00	0,00E+00	0,00E+00
NRSF [MJ]	2,52E+00	2,52E+00	1,01E+00	0,00E+00	1,20E+00	0,00E+00	0,00E+00	0,00E+00	3,08E-01	0,00E+00	0,00E+00	0,00E+00
FW [m3]	5,13E-01	1,39E-02	2,38E-05	3,88E-04	1,14E-04	2,17E-04	9,30E-03	9,30E-03	2,91E-05	1,28E-03	1,76E-04	-6,93E-03
HWD [kg]	6,93E-07	3,90E-08	3,46E-12	7,75E-09	4,44E-12	7,39E-13	1,89E-08	1,89E-08	1,13E-12	5,54E-11	-3,69E-13	-6,50E-09
NHWD [kg]	1,80E+00	1,25E+00	1,18E-04	4,91E-03	2,18E-04	2,36E-03	5,83E-01	5,83E-01	5,58E-05	5,45E-02	5,38E-02	-2,88E-02
RWD [kg]	1,55E-01	3,68E-04	1,64E-06	3,92E-05	2,68E-06	1,25E-06	2,63E-04	2,63E-04	6,86E-07	8,36E-05	1,37E-06	-2,89E-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]	2,61E-01	2,61E-01	0,00E+00	8,96E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,71E-01	0,00E+00	0,00E+00
MER [kg]	2,46E-01	2,46E-01	0,00E+00	8,88E-03	0,00E+00	5,26E-02	0,00E+00	0,00E+00	0,00E+00	1,84E-01	0,00E+00	0,00E+00
EEE [MJ]	3,68E-01	3,42E-01	0,00E+00	2,01E-02	0,00E+00	1,13E-01	0,00E+00	0,00E+00	0,00E+00	2,29E-01	0,00E+00	-1,99E-02
EET [MJ]	7,89E-01	7,29E-01	0,00E+00	3,62E-02	0,00E+00	2,05E-01	0,00E+00	0,00E+00	0,00E+00	5,34E-01	0,00E+00	-4,60E-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	2,26E-02	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

Table 11: Additional environmental impact indicators per functional unit (0.5004 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	B2	B6	C2	C3	C4	D
PM [Disease in- idences]	1,44E-06	4,19E-07	3,79E-08	-6,50E-11	8,90E-10	1,12E-10	2,04E-07	2,04E-07	2,28E-10	2,30E-09	3,20E-10	-3,14E-08
IRP [kBq. U235 eq.]	2,57E+01	2,44E-02	2,40E-04	5,55E-03	4,00E-04	1,98E-04	2,32E-02	2,32E-02	1,02E-04	1,29E-02	1,47E-04	-4,15E-02
ETP-fw [CTUe]	4,89E+02	9,46E+00	7,88E-01	1,84E-01	1,01E+00	1,10E-02	8,54E+00	8,54E+00	2,59E-01	3,29E-01	1,83E-02	-1,02E+01
HTP-c [CTUh]	2,96E-08	1,38E-09	1,49E-11	6,04E-12	2,08E-11	6,15E-13	7,94E-10	7,94E-10	5,31E-12	2,37E-11	2,79E-12	-2,81E-10
HTP-nc [CTUh]	4,63E-07	5,03E-08	7,07E-10	1,63E-10	1,11E-09	2,49E-11	2,82E-08	2,82E-08	2,83E-10	1,54E-09	2,09E-10	-1,00E-08
SQP [dimensionsless]	4,09E+02	-3,46E+00	9,85E-02	5,61E-01	5,96E-01	6,84E-03	8,32E-01	8,32E-01	1,53E-01	2,99E-01	1,38E-02	-6,85E+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 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 of 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	B2	B6	C2	C3	C4	D
GWP - total [kg CO2 eq.]	3,82E+02	3,26E+01	6,64E-01	8,69E-01	8,08E-01	5,36E-01	7,65E+00	3,37E+02	2,07E-01	1,69E+00	2,46E-01	-4,21E+00
GWP - fossil [kg CO2 eq.]	3,78E+02	3,32E+01	6,57E-01	4,97E-01	7,65E-01	1,41E-02	7,62E+00	3,33E+02	1,96E-01	1,69E+00	2,46E-01	-4,48E+00
GWP - biogenic [kg CO2 eq.]	3,99E+00	-5,87E-01	6,37E-03	3,72E-01	3,61E-02	5,22E-01	2,36E-02	3,61E+00	9,24E-03	3,17E-03	-7,09E-05	2,69E-01
GWP - luluc [kg CO2 eq.]	6,64E-02	1,80E-02	1,12E-03	3,90E-04	6,99E-03	3,00E-06	2,26E-03	3,58E-02	1,79E-03	7,88E-05	2,00E-05	-1,96E-03
ODP [kg CFC-11 eq.]	6,25E-09	1,49E-10	5,79E-14	6,03E-12	9,81E-14	6,60E-14	1,98E-11	6,07E-09	2,51E-14	5,02E-12	1,98E-13	-2,38E-11
AP [Mole of H+ eq.]	1,19E+00	2,66E-01	1,05E-02	3,42E-04	8,79E-04	1,48E-04	2,12E-01	7,03E-01	2,25E-04	1,56E-03	2,06E-04	-2,50E-02
EP - freshwater [kg P eq.]	1,38E-03	1,34E-04	5,61E-07	4,71E-06	2,76E-06	2,06E-08	5,37E-06	1,23E-03	7,05E-07	1,97E-06	7,34E-08	-1,34E-05
EP - marine [kg N eq.]	2,08E-01	2,79E-02	4,40E-03	1,00E-04	2,95E-04	5,38E-05	6,71E-03	1,68E-01	7,53E-05	6,16E-04	8,84E-05	-3,61E-03
EP - terrestrial [Mole of N eq.]	2,21E+00	3,05E-01	4,83E-02	1,04E-03	3,47E-03	6,72E-04	8,40E-02	1,76E+00	8,88E-04	7,10E-03	1,04E-03	-3,92E-02
POCP [kg NMVOC eq.]	5,85E-01	9,03E-02	1,20E-02	4,81E-05	7,66E-04	1,42E-04	3,07E-02	4,49E-01	1,96E-04	1,65E-03	2,31E-04	-1,14E-02
ADPE [kg Sb eq.]	5,96E-02	2,27E-02	1,28E-08	8,01E-08	4,97E-08	6,02E-10	3,69E-02	5,10E-05	1,27E-08	4,06E-08	8,74E-10	-1,34E-03
ADPF [MJ]	7,55E+03	4,95E+02	8,10E+00	7,45E+00	1,03E+01	1,70E-01	9,29E+01	6,93E+03	2,63E+00	6,13E+00	2,79E-01	-8,56E+01
WDP [m³ world equiv.]	8,31E+01	6,94E+00	2,41E-03	2,25E-02	9,11E-03	6,65E-02	2,30E+00	7,33E+01	2,33E-03	3,48E-01	5,33E-02	-7,26E-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	B2	B6	C2	C3	C4	D
PERE [MJ]	4,26E+03	1,04E+02	1,52E-01	-4,45E+00	7,48E-01	4,10E-02	1,77E+01	4,14E+03	1,91E-01	2,96E+00	9,91E-02	-2,15E+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	2,36E+00	7,48E-01	4,10E-02	1,77E+01	4,14E+03	1,91E-01	2,96E+00	9,91E-02	-2,15E+01
PENRE [MJ]	7,50E+03	4,98E+02	8,12E+00	-4,59E+01	1,03E+01	1,70E-01	9,31E+01	6,93E+03	2,64E+00	6,13E+00	2,78E-01	-6,55E+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	7,45E+00	1,03E+01	1,70E-01	9,31E+01	6,93E+03	2,64E+00	6,13E+00	2,78E-01	-8,59E+01
SM [kg]	4,46E-01	2,97E-01	0,00E+00	1,49E-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
RSF [MJ]	7,81E-01	0,00E+00	8,81E-02	0,00E+00	5,52E-01	0,00E+00	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	0,00E+00	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	2,79E-03	8,19E-04	1,56E-03	6,70E-02	3,34E+00	2,10E-04	9,23E-03	1,26E-03	-4,99E-02
HWD [kg]	4,99E-06	5,34E-06	2,49E-11	5,58E-08	3,19E-11	5,32E-12	1,36E-07	-5,42E-07	8,17E-12	3,99E-10	-2,66E-12	-4,68E-08
NHWD [kg]	1,30E+01	2,84E+00	8,48E-04	3,54E-02	1,57E-03	1,70E-02	4,20E+00	5,07E+00	4,02E-04	3,92E-01	3,87E-01	-2,07E-01
RWD [kg]	1,12E+00	1,33E-02	1,18E-05	2,82E-04	1,93E-05	8,98E-06	1,90E-03	1,10E+00	4,94E-06	6,02E-04	9,87E-06	-2,08E-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]	1,88E+00	0,00E+00	0,00E+00	6,45E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,23E+00	0,00E+00	0,00E+00
MER [kg]	1,77E+00	0,00E+00	0,00E+00	6,39E-02	0,00E+00	3,78E-01	0,00E+00	0,00E+00	0,00E+00	1,33E+00	0,00E+00	0,00E+00
EEE [MJ]	2,65E+00	4,45E-02	0,00E+00	1,45E-01	0,00E+00	8,13E-01	0,00E+00	0,00E+00	0,00E+00	1,65E+00	0,00E+00	-1,43E-01
EET [MJ]	5,68E+00	1,03E-01	0,00E+00	2,61E-01	0,00E+00	1,48E+00	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]	1,63E-01	0,00E+00	0,00E+00	1,63E-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

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	B2	B6	C2	C3	C4	D
PM [Disease in- idences]	1,04E-05	2,70E-06	2,73E-07	-4,68E-10	6,41E-09	8,09E-10	1,47E-06	5,92E-06	1,64E-09	1,66E-08	2,30E-09	-2,26E-07
IRP [kBq. U235 eq.]	1,85E+02	1,42E+00	1,73E-03	3,99E-02	2,88E-03	1,42E-03	1,67E-01	1,83E+02	7,36E-04	9,28E-02	1,06E-03	-2,99E-01
ETP-fw [CTUe]	3,52E+03	3,85E+02	5,68E+00	1,32E+00	7,30E+00	7,94E-02	6,15E+01	3,05E+03	1,87E+00	2,37E+00	1,32E-01	-7,36E+01
HTP-c [CTUh]	2,13E-07	1,05E-07	1,07E-10	4,35E-11	1,49E-10	4,43E-12	5,72E-09	1,02E-07	3,82E-11	1,71E-10	2,01E-11	-2,02E-09
HTP-nc [CTUh]	3,33E-06	5,93E-07	5,09E-09	1,17E-09	7,96E-09	1,80E-10	2,03E-07	2,51E-06	2,04E-09	1,11E-08	1,51E-09	-7,20E-08
SQP [dimensionsless]	2,95E+03	2,09E+02	7,09E-01	4,04E+00	4,29E+00	4,93E-02	5,99E+00	2,72E+03	1,10E+00	2,15E+00	9,94E-02	-4,93E+01

4.4 Data comparison

The environmental profile especially for use stage B6 is very sensitive to the region of input electricity which relies on in which country the luminaires are used. Table 16 (calculated per FU) and Table 17 (calculated per product unit) give a comparison for Global Warming Potential GWP total [kg CO2 eq.] of reference product for use stage B6 with electricity used from different countries of Europe. Table 15 shows the scaling factor for GWP total of energy grid mixes for the different countries.

For example:

For the reference model 0070799 multiple GWP total B6 for EU (4,68E+01/functional unit) with Scaling factor for B6 for Belgium (0.599), the GWP total result for B6 for Belgium (2.80E+01) per functional unit can be worked out.

For other concerned models, first step, need to work out the GWP total of B6 for EU per functional unit or unit of product, based on the extrapolation rules provided in chapter 5 of this report, then by the same way provided above, the GWP total of B6 for different countries can be worked out.

Table 15: Scaling factor of use stage for GWP total of energy grid mixes for different countries

Electricity grid	Scaling Factor use stage	Electricity grid	Scaling Factor use stage
EU	1.000	NETHERLANDS	1.403
AUSTRIA	0.821	NORWAY	0.126
BELGIUM	0.599	POLAND	2.771
DENMARK	0.686	PORTUGUAL	1.122
FINLAND	0.606	ROMANIA	1.489
FRANCE	0.250	SPAN	0.972
GERMANY	1.445	SWEDEN	0.139
HUNGARY	1.131	SWITZERLAND	0.390
IRELAND	1.339	UK	0.872
ITALY	1.268		

Table 16: : GWP total [kg CO2 eq.] results for B6 for different country per functional unit (0.5004 kg product incl. packaging) only for reference product 0070799

Electricity grid	GWP - total [kg CO2 eq.] B6
EU	4,68E+01
AUSTRIA	3,84E+01
BELGIUM	2,80E+01
DENMARK	3,21E+01
FINLAND	2,83E+01
FRANCE	1,17E+01
GERMANY	6,76E+01
HUNGARY	5,29E+01
IRELAND	6,26E+01
ITALY	5,93E+01
NETHERLANDS	6,56E+01
NORWAY	5,89E+00
POLAND	1,30E+02
POTUGAL	5,25E+01
ROMANIA	6,96E+01
SPAIN	4,54E+01
SWEDEN	6,50E+00
SWITZERLAND	1,82E+01
UK	4,08E+01

Note: The result in this table would be slightly different due to rounding inaccuracies.

Table 17: GWP total [kg CO2 eq.] results for B6 for different country per unit of product for reference product 0070799

Electricity grid	GWP - total [kg CO2 eq.] B6
EU	3,37E+02
AUSTRIA	2,76E+02
BELGIUM	2,02E+02
DENMARK	2,31E+02
FINLAND	2,04E+02
FRANCE	8,42E+01
GERMANY	4,86E+02
HUNGARY	3,81E+02
IRELAND	4,51E+02
ITALY	4,27E+02
NETHERLANDS	4,72E+02
NORWAY	4,24E+01
POLAND	9,33E+02
POTUGAL	3,78E+02
ROMANIA	5,01E+02
SPAIN	3,27E+02
SWEDEN	4,68E+01
SWITZERLAND	1,31E+02
UK	2,94E+02

Note: The result in this table would be slightly different due to rounding inaccuracies.

4.5 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 = 2.217).

The individual rating for technological-, time- and geographical representativeness is assessed as good (DQR = 2.54; 1,79; and 2.32).

5 Extrapolation rules

The extrapolation coefficients included in the PEP Eco-passport have been developed according to the valid PCR & PSR. Table 18 shows the key properties of the reference product, function as extrapolation basis.

Table 18: 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:

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

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

Table 19: Information for product family (Length: 600mm + 1200mm + 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
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,8090	0,3780	1,1290	0,0700	0,217	0,5	3,6030	0,50
0010202	Resisto 600 IP66 1600lm 840	12	1600	0,7530	0,1590	0,0690	0,0320	0	0	1,0130	1,00
0010203	Resisto 600 IP66 2500lm 840	19	2500	0,7250	0,1590	0,1170	0,0320	0	0	1,0330	1,00
0010204	Resisto 600 IP66 1600lm 865	12	1600	0,7530	0,1590	0,0690	0,0320	0	0	1,0130	1,00
0010205	Resisto 600 IP66 2500lm 865	19	2500	0,7250	0,1590	0,1170	0,0320	0	0	1,0330	1,00
0010206	Resisto 600 HE IP66 1400lm 840	10	1400	0,7530	0,1590	0,0690	0,0320	0	0	1,0130	1,00
0010207	Resisto 600 HE IP66 2500lm 840	16	2500	0,7250	0,1590	0,1170	0,0320	0	0	1,0330	1,00
0010208	Resisto 1200 IP66 2800lm 830	20	2800	1,2770	0,2590	0,1170	0,0600	0	0	1,7130	1,00
0010209	Resisto 1200 IP66 5000lm 830	36	5050	1,2800	0,2590	0,1300	0,0600	0	0	1,7290	1,00
0010210	Resisto 1200 IP66 2800lm 840	20	2800	1,2770	0,2590	0,1170	0,0600	0	0	1,7130	1,00
0010211	Resisto 1200 IP66 5000lm 840	36	5050	1,2780	0,2590	0,1280	0,0600	0	0	1,7250	1,00
0010212	Resisto 1200 IP66 2800lm 865	20	2800	1,2770	0,2590	0,1170	0,0600	0	0	1,7130	1,00
0010213	Resisto 1200 IP66 5000lm 865	36	5050	1,2800	0,2590	0,1300	0,0600	0	0	1,7290	1,00

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
0010214	Resisto 1200 IP66 2800lm 840 QC	20	2800	1,2770	0,2590	0,1830	0,0600	0	0	1,7790	1,00
0010215	Resisto 1200 IP66 5000lm 840 QC	36	5050	1,2770	0,2590	0,1960	0,0600	0	0	1,7920	1,00
0010216	Resisto 1200 IP66 2800lm 840 5xTH	20	2800	1,2910	0,2630	0,2880	0,0600	0	0	1,9020	1,00
0010217	Resisto 1200 IP66 5000lm 840 5xTH	36	5050	1,2930	0,2630	0,2990	0,0600	0	0	1,9150	1,00
0010232	Resisto 1200 HE IP66 2800lm 840	18	2800	1,2770	0,2590	0,1170	0,0600	0	0	1,7130	1,00
0010233	Resisto 1200 HE IP66 4800lm 840	31	4800	1,2780	0,2590	0,1280	0,0600	0	0	1,7250	1,00
0010240	Resisto 1500 IP66 4200lm 830	30	4200	1,6360	0,2990	0,1280	0,0700	0	0	2,1330	1,00
0010241	Resisto 1500 IP66 7600lm 830	55	7600	1,6350	0,2990	0,1700	0,0700	0	0	2,1740	1,00
0010242	Resisto 1500 IP66 8500lm 830	61	8500	1,6350	0,2990	0,1700	0,0700	0	0	2,1740	1,00
0010243	Resisto 1500 IP66 4200lm 840	30	4200	1,6360	0,2990	0,1280	0,0700	0	0	2,1330	1,00
0010244	Resisto 1500 IP66 7600lm 840	55	7600	1,6350	0,2990	0,1700	0,0700	0	0	2,1740	1,00
0010245	Resisto 1500 IP66 8500lm 840	61	8500	1,6350	0,2990	0,1700	0,0700	0	0	2,1740	1,00
0010246	Resisto 1500 IP66 4200lm 865	30	4200	1,6360	0,2990	0,1280	0,0700	0	0	2,1330	1,00
0010247	Resisto 1500 IP66 7600lm 865	55	7600	1,6350	0,2990	0,1700	0,0700	0	0	2,1740	1,00
0010248	Resisto 1500 IP66 8500lm 865	61	8500	1,6350	0,2990	0,1700	0,0700	0	0	2,1740	1,00
0010249	Resisto 1500 IP66 4200lm 840 QC	30	4200	1,6350	0,3030	0,1940	0,0700	0	0	2,2020	1,00
0010250	Resisto 1500 IP66 7600lm 840 QC	55	7600	1,6350	0,3030	0,2360	0,0700	0	0	2,2440	1,00
0010251	Resisto 1500 IP66 4200lm 840 5xTH	30	4200	1,6500	0,3030	0,3500	0,0700	0	0	2,3730	1,00
0010252	Resisto 1500 IP66 7600lm 840 5xTH	55	7600	1,6500	0,3030	0,3920	0,0700	0	0	2,4150	1,00
0010268	Resisto 1500 HE IP66 4000lm 840	25	4000	1,6350	0,2990	0,1280	0,0700	0	0	2,1320	1,00
0010269	Resisto 1500 HE IP66 7100lm 840	46	7100	1,6390	0,2990	0,1570	0,0700	0	0	2,1650	1,00
0010270	Resisto 1500 HE IP66 9700lm 840	60	9700	1,6390	0,2990	0,1700	0,0700	0	0	2,1780	1,00
0010278	Resisto 1500 HE IP66 8300lm 840	54	8300	1,6350	0,2990	0,1420	0,0700	0	0	2,1460	1,00

Table 20: Information for product family (Length: 1200mm + 1500mm / Type: EM + EM PRO)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packa-ging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light man-agement weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coef-ficient
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,8090	0,3780	1,1290	0,0700	0,217	0,5	3,6030	0,50
0010342	RESISTO 1200 IP66 2800LM 840 EM PRO	25	2800	1,2817	0,2669	0,4347	0,0550	0	0,2	2,0383	1,00
0010343	RESISTO 1200 IP66 5000LM 840 EM PRO	39	5050	1,2817	0,2669	0,4347	0,0550	0	0,2	2,0383	1,00
0010344	RESISTO 1500 IP66 4200LM 840 EM PRO	34	4200	1,6428	0,3129	0,5462	0,0650	0	0,2	2,5668	1,00
0010345	RESISTO 1500 IP66 7600LM 840 EM PRO	59	7600	1,7323	0,3129	0,5712	0,065	0	0,2	2,6813	1,00
0010346	RESISTO 1200 IP66 5000LM 840 EM	40	5050	1,2810	0,2669	0,4204	0,0550	0	0,20	2,0233	1,00
0010347	RESISTO 1500 IP66 7600LM 840 EM	59	7600	1,6420	0,3129	0,5520	0,0650	0	0,2	2,5719	1,00
0010348	RESISTO 1500 IP66 4200LM 840 EM	34	4200	1,6420	0,3129	0,5440	0,0650	0	0,2	2,5639	1,00
0010349	RESISTO 1200 IP66 2800LM 840 EM	24	2800	1,2810	0,2669	0,4204	0,0550	0	0,20	2,0233	1,00
0010350	RESISTO 1500 HE IP66 7100LM 840 EM	50	7100	1,6420	0,3129	0,5520	0,0650	0	0,2	2,5719	1,00
0010351	RESISTO 1500 HE IP66 4000LM 840 EM	29	4000	1,6420	0,3129	0,5440	0,0650	0	0,2	2,5639	1,00
0010352	RESISTO 1200 HE IP66 2800LM 840 EM	22	2800	1,2810	0,2669	0,4204	0,0550	0	0,20	2,0233	1,00
0010353	RESISTO 1200 HE IP66 4800LM 840 EM	35	4800	1,2810	0,2669	0,4374	0,0550	0	0,20	2,0403	1,00

Table 21: Information for product family (Length: 1200mm + 1500mm / Type: DA + DA 5xTH + DA EM)

Product code	Product name	Power [W]	Lighting output [lm]	Lumi-naire struc-ture weight [kg]	Product packa-ging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light manage-ment weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coef-ficient
0070799	RST 1500 4200LM 840 SSA EM	34	4200	1,809	0,378	1,129	0,070	0,217	0,500	3,603	0,500
0010224	Resisto 1200 IP66 DALI 2800lm 840	20	2800	1,2780	0,2590	0,2120	0,060	0,016	0	1,8250	0,75
0010225	Resisto 1200 IP66 DALI 5000lm 840	36	5050	1,3090	0,2590	0,2150	0,060	0,016	0	1,8590	0,75
0010236	Resisto 1200 HE IP66 DALI 2800lm 840	18	2800	1,2750	0,2590	0,1320	0,060	0,019	0	1,7450	0,75
0010237	Resisto 1200 HE IP66 DALI 4800lm 840	31	4800	1,2780	0,2590	0,2120	0,060	0,016	0	1,8250	0,75
0010284	Resisto 1200 IP66 DALI 2800lm 840 5xTH	20	2800	1,2930	0,2630	0,3670	0,060	0,03	0	2,0130	0,75
0010285	Resisto 1200 IP66 DALI 5000lm 840 5xTH	36	5000	1,3240	0,2630	0,3700	0,060	0,03	0	2,0470	0,75
0010259	Resisto 1500 IP66 DALI 4200lm 840	30	4200	1,6350	0,2990	0,2120	0,070	0,016	0	2,2320	0,75
0010260	Resisto 1500 IP66 DALI 7600lm 840	55	7600	1,7320	0,2990	0,2230	0,069	0,019	0	2,3420	0,75
0010261	Resisto 1500 IP66 DALI 8500lm 840	61	8500	1,7320	0,2990	0,2230	0,069	0,019	0	2,3420	0,75
0010273	Resisto 1500 HE IP66 DALI 4000lm 840	25	4000	1,6350	0,2990	0,2120	0,070	0,016	0	2,2320	0,75
0010274	Resisto 1500 HE IP66 DALI 7100lm 840	46	7100	1,7320	0,2990	0,2200	0,069	0,019	0	2,3390	0,75
0010275	Resisto 1500 HE IP66 DALI 9700lm 840	60	9700	1,7320	0,2990	0,2230	0,069	0,019	0	2,3420	0,75
0010279	Resisto 1500 HE IP66 DALI 8300lm 840	54	8300	1,7320	0,2990	0,2230	0,069	0,019	0	2,3420	0,75
0010286	Resisto 1500 IP66 DALI 4200lm 840 5xTH	30	4200	1,6500	0,3030	0,4170	0,070	0,030	0	2,4700	0,75
0010287	Resisto 1500 IP66 DALI 7600lm 840 5xTH	55	7600	1,7470	0,3030	0,4280	0,069	0,033	0	2,5800	0,75
0010354	Resisto 1200 HE IP66 DALI 4800LM 840 EM	35	4800	1,2817	0,2669	0,5408	0,0550	0	0,20	2,1444	0,75
0010355	RESISTO 1500 HE IP66 DALI 7100LM 840 EM	50	7100	1,7372	0,3069	0,6549	0,0650	0	0,2	2,7640	0,75
0010356	RESISTO 1200 HE IP66 DALI 2800LM 840 EM	22	2800	1,2817	0,2669	0,4484	0,0550	0	0,20	2,0520	0,75
0010357	RESISTO 1500 HE IP66 DALI 4000LM 840 EM	29	4000	1,6428	0,3069	0,6531	0,0650	0	0,2	2,6677	0,75

Table 22: Information for product family (Length: 1200mm + 1500mm / Type: MW + MW-cor. + MW-EM)

Product code	Product name	Power [W]	Lighting output [lm]	Luminaire structure weight [kg]	Product packa-ging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light mana-gement weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coeffi-cient
0070799	RST 1500 4200LM 840 SSA EM	34	4200	1,809	0,378	1,129	0,070	0,217	0,500	3,603	0,500
0010220	Resisto 1200 IP66 MW 2800lm 840	20	2800	1,2770	0,2630	0,1180	0,0600	0,051	0	1,7690	0,75
0010221	Resisto 1200 IP66 MW 5000lm 840	36	5050	1,2770	0,2630	0,1310	0,0600	0,051	0	1,7820	0,75
0010222	Resisto 1200 IP66 MWcor 2800lm 840	20	2800	1,2780	0,2630	0,2250	0,0600	0,051	0	1,8770	0,55
0010223	Resisto 1200 IP66 MWcor 5000lm 840	36	5050	1,3110	0,2630	0,2280	0,0600	0,051	0	1,9130	0,55
0010255	Resisto 1500 IP66 MW 4200lm 840	30	4200	1,6360	0,3030	0,1280	0,0700	0,051	0	2,1880	0,75
0010256	Resisto 1500 IP66 MW 7600lm 840	55	7600	1,6360	0,3030	0,1700	0,0700	0,051	0	2,2300	0,75
0010257	Resisto 1500 IP66 MWcor 4200lm 840	30	4200	1,6360	0,3030	0,2250	0,0700	0,051	0	2,2850	0,55
0010258	Resisto 1500 IP66 MWcor 7600lm 840	55	7600	1,7320	0,3030	0,2380	0,0700	0,051	0	2,3940	0,55
0010322	RESISTO 1200 IP66 MWCORINF 2800LM 840	20	2800	1,2780	0,2630	0,2250	0,0600	0,051	0	1,8770	0,55
0010323	RESISTO 1200 IP66 MWCORINF 5000LM 840	36	5050	1,3110	0,2630	0,2280	0,0600	0,051	0	1,9130	0,55
0010324	RESISTO 1500 IP66 MWCORINF 4200LM 840	30	4200	1,6360	0,3030	0,2250	0,0700	0,051	0	2,2850	0,55
0010325	RESISTO 1500 IP66 MWCORINF 7600LM 840	55	7600	1,7320	0,3030	0,2380	0,0700	0,051	0	2,3940	0,55
0010338	RESISTO 1200 IP66 2800LM 840 MW EM	25	2800	1,2829	0,2706	0,4259	0,0550	0,0664	0,20	2,1008	0,75
0010339	RESISTO 1200 IP66 5000LM 840 MW EM	39	5050	1,2829	0,2706	0,4259	0,0550	0,0664	0,20	2,1008	0,75
0010340	RESISTO 1500 IP66 4200LM 840 MW EM	34	4200	1,6420	0,3166	0,5338	0,0650	0,0664	0,20	2,6239	0,75
0010341	RESISTO 1500 IP66 7600LM 840 MW EM	56	7600	1,737411	0,3166	0,5698	0,065	0,0664	0,20	2,755211	0,75

Table 23: 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 packa-ging weight [kg]	Control gear weight [kg]	Light source weight [kg]	Light mana-gement weight [kg]	Battery weight [kg]	Total weight [kg]	Energy saving coeffi-cient
0070799	RST 1500 4200LM 840 SSA EM	34	4200	1,809	0,378	1,129	0,070	0,217	0,500	3,603	0,500
0010429	RESISTO 1200 IP65 2800LM 840 SSA03H	20	2800	1,3265	0,3557	0,4175	0,0550	0,0766	0	2,2313	0,50
0010431	RESISTO 1200 IP65 5000LM 840 SSA03H	36	5050	1,3265	0,3557	0,4175	0,0550	0,0766	0	2,2313	0,50
0010433	RESISTO 1500 IP65 4200LM 840 SSA03H	30	4200	1,6846	0,3857	0,4773	0,0650	0,0782	0	2,6908	0,50
0010435	RESISTO 1500 IP65 7600LM 840 SSA03H	55	7600	1,7792	0,3857	0,4856	0,0650	0,0782	0	2,7937	0,50
0010226	Resisto 1200 IP66 2800lm 840 SSC	22	2800	1,2780	0,2630	0,2270	0,0600	0,059	0	1,8870	0,50
0010227	Resisto 1200 IP66 5000lm 840 SSC	38	5000	1,3090	0,2630	0,2310	0,0600	0,059	0	1,9220	0,50
0010228	Resisto 1200 IP65 2800lm 840 SSC S	24	2800	1,2970	0,3270	0,2320	0,0600	0,182	0	2,0980	0,50
0010229	RESISTO 1200 IP65 5000 840 SSC S	40	5000	1,3280	0,3270	0,2350	0,0600	0,182	0	2,1320	0,50
0010262	Resisto 1500 IP66 4200lm 840 SSC	32	4200	1,6380	0,3030	0,2270	0,0700	0,064	0	2,3020	0,50
0010263	Resisto 1500 IP66 7600lm 840 SSC	57	7600	1,7320	0,3030	0,2360	0,0700	0,058	0	2,3990	0,50
0010264	Resisto 1500 IP65 4200lm 840 SSC S	34	4200	1,6550	0,3630	0,2720	0,0700	0,154	0	2,5140	0,50
0010265	Resisto 1500 IP65 7600lm 840 SSC S	59	7600	1,7510	0,3670	0,2780	0,0700	0,154	0	2,6200	0,50
0010276	Resisto 1500 HE IP65 4000lm 840 SSE	26	4000	1,6860	0,3670	0,2510	0,0700	0,121	0	2,4950	0,50
0010277	Resisto 1500 HE IP65 7100lm 840 SSE	47	7100	1,7840	0,3670	0,2700	0,0700	0,121	0	2,6120	0,50
0010238	Resisto 1200 HE IP65 2800lm 840 SSE	20	2800	1,3250	0,3270	0,3240	0,0600	0,121	0	2,1570	0,50
0010239	Resisto 1200 HE IP65 4800lm 840 SSE	32	4800	1,3250	0,3270	0,2510	0,0600	0,121	0	2,0840	0,50
0010430	RESISTO 1200 IP65 2800LM 840 SSA03L	20	2800	1,3265	0,3557	0,4175	0,0550	0,0766	0	2,2313	0,50
0010432	RESISTO 1200 IP65 5000LM 840 SSA03L	36	5050	1,3265	0,3557	0,4175	0,0550	0,0766	0	2,2313	0,50
0010434	RESISTO 1500 IP65 4200LM 840 SSA03L	30	4200	1,6846	0,3857	0,4773	0,0650	0,0782	0	2,6908	0,50
0010436	RESISTO 1500 IP65 7600LM 840 SSA03L	55	7600	1,7792	0,3857	0,4747	0,0650	0,0754	0	2,7800	0,50
0010437	RESISTO 1500 HE IP65 8300LM 840 SSA03H	56	8300	1,7792	0,3857	0,4832	0,0650	0,0725	0	2,7856	0,50
0010438	RESISTO 1500 HE IP65 8300LM 840 SSA03L	54	8300	1,7792	0,3857	0,4747	0,0650	0,0754	0	2,7800	0,50
0010439	RESISTO 1500 HE IP65 9700LM 840 SSA03H	60	9700	1,7792	0,3857	0,4763	0,0650	0,0754	0	2,7816	0,50
0010440	RESISTO 1500 HE IP65 9700LM 840 SSA03L	60	9700	1,7792	0,3857	0,4763	0,0650	0,0754	0	2,7816	0,50
0010533	RESISTO 1200 IP65 2800LM 840 SSA01N	20	2800	1,3265	0,3557	0,4175	0,0550	0,1856	0	2,3403	0,50
0010534	RESISTO 1200 IP65 5000LM 840 SSA01N	36	5050	1,3265	0,3557	0,4175	0,0550	0,1856	0	2,3403	0,50
0010535	RESISTO 1500 IP65 4200LM 840 SSA01N	30	4200	1,6846	0,3857	0,4773	0,0650	0,1872	0	2,7998	0,50
0010536	RESISTO 1500 IP65 7600LM 840 SSA01N	55	7600	1,7792	0,3857	0,4747	0,0650	0,1872	0	2,8918	0,50
0010537	RESISTO 1500 HE IP65 8300LM 840 SSA01N	56	8300	1,7792	0,3857	0,4747	0,0650	0,1872	0	2,8918	0,50
0010538	RESISTO 1500 HE IP65 9700LM 840 SSA01N	60	9700	1,7792	0,3857	0,4763	0,0650	0,1872	0	2,8934	0,50

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

Table 24: Extrapolation coefficients at product level (Length: 600mm + 1200mm + 1500mm / Type: Constant current)

Product code	Product name	Power [W]	Lighting output [lm]	Manufac-turing stage (A1-A3)	Distribution stage (A4)	Installation stage (A5)	Replace Battery (B2)	Use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,0000	1,0000	1,0000	2,00	1,0000	1,0000	1,0000
0010202	Resisto 600 IP66 1600lm 840	12	1600	0,3940	0,2812	0,4206	0,00	0,7059	0,2648	0,3940
0010203	Resisto 600 IP66 2500lm 840	19	2500	0,3719	0,2867	0,4206	0,00	1,1176	0,2710	0,3719
0010204	Resisto 600 IP66 1600lm 865	12	1600	0,3940	0,2812	0,4206	0,00	0,7059	0,2648	0,3940
0010205	Resisto 600 IP66 2500lm 865	19	2500	0,3719	0,2867	0,4206	0,00	1,1176	0,2710	0,3719
0010206	Resisto 600 HE IP66 1400lm 840	10	1400	0,3940	0,2812	0,4206	0,00	0,5882	0,2648	0,3940
0010207	Resisto 600 HE IP66 2500lm 840	16	2500	0,3719	0,2867	0,4206	0,00	0,9412	0,2710	0,3719
0010208	Resisto 1200 IP66 2800lm 830	20	2800	0,6669	0,4754	0,6852	0,00	1,1765	0,4509	0,6669
0010209	Resisto 1200 IP66 5000lm 830	36	5050	0,6649	0,4799	0,6852	0,00	2,1176	0,4558	0,6649
0010210	Resisto 1200 IP66 2800lm 840	20	2800	0,6669	0,4754	0,6852	0,00	1,1765	0,4509	0,6669
0010211	Resisto 1200 IP66 5000lm 840	36	5050	0,6645	0,4788	0,6852	0,00	2,1176	0,4546	0,6645
0010212	Resisto 1200 IP66 2800lm 865	20	2800	0,6669	0,4754	0,6852	0,00	1,1765	0,4509	0,6669
0010213	Resisto 1200 IP66 5000lm 865	36	5050	0,6649	0,4799	0,6852	0,00	2,1176	0,4558	0,6649
0010214	Resisto 1200 IP66 2800lm 840 QC	20	2800	0,6521	0,4938	0,6852	0,00	1,1765	0,4713	0,6521
0010215	Resisto 1200 IP66 5000lm 840 QC	36	5050	0,6498	0,4974	0,6852	0,00	2,1176	0,4753	0,6498
0010216	Resisto 1200 IP66 2800lm 840 5xTH	20	2800	0,6463	0,5279	0,6958	0,00	1,1765	0,5082	0,6463
0010217	Resisto 1200 IP66 5000lm 840 5xTH	36	5050	0,6464	0,5315	0,6958	0,00	2,1176	0,5122	0,6464
0010232	Resisto 1200 HE IP66 2800lm 840	18	2800	0,6669	0,4754	0,6852	0,00	1,0588	0,4509	0,6669
0010233	Resisto 1200 HE IP66 4800lm 840	31	4800	0,6645	0,4788	0,6852	0,00	1,8235	0,4546	0,6645
0010240	Resisto 1500 IP66 4200lm 830	30	4200	0,8441	0,5920	0,7910	0,00	1,7647	0,5687	0,8441
0010241	Resisto 1500 IP66 7600lm 830	55	7600	0,8325	0,6034	0,7910	0,00	3,2353	0,5814	0,8325
0010242	Resisto 1500 IP66 8500lm 830	61	8500	0,8325	0,6034	0,7910	0,00	3,5882	0,5814	0,8325
0010243	Resisto 1500 IP66 4200lm 840	30	4200	0,8441	0,5920	0,7910	0,00	1,7647	0,5687	0,8441
0010244	Resisto 1500 IP66 7600lm 840	55	7600	0,8325	0,6034	0,7910	0,00	3,2353	0,5814	0,8325
0010245	Resisto 1500 IP66 8500lm 840	61	8500	0,8325	0,6034	0,7910	0,00	3,5882	0,5814	0,8325
0010246	Resisto 1500 IP66 4200lm 865	30	4200	0,8441	0,5920	0,7910	0,00	1,7647	0,5687	0,8441
0010247	Resisto 1500 IP66 7600lm 865	55	7600	0,8325	0,6034	0,7910	0,00	3,2353	0,5814	0,8325
0010248	Resisto 1500 IP66 8500lm 865	61	8500	0,8325	0,6034	0,7910	0,00	3,5882	0,5814	0,8325
0010249	Resisto 1500 IP66 4200lm 840 QC	30	4200	0,8283	0,6112	0,8016	0,00	1,7647	0,5888	0,8283
0010250	Resisto 1500 IP66 7600lm 840 QC	55	7600	0,8199	0,6228	0,8016	0,00	3,2353	0,6019	0,8199

Product code	Product name	Power [W]	Lighting output [lm]	Manufac-turing stage (A1-A3)	Distribution stage (A4)	Installation stage (A5)	Replace Battery (B2)	Use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0010251	Resisto 1500 IP66 4200lm 840 5xTH	30	4200	0,8118	0,6586	0,8016	0,00	1,7647	0,6419	0,8118
0010252	Resisto 1500 IP66 7600lm 840 5xTH	55	7600	0,8091	0,6703	0,8016	0,00	3,2353	0,6549	0,8091
0010268	Resisto 1500 HE IP66 4000lm 840	25	4000	0,8437	0,5917	0,7910	0,00	1,4706	0,5684	0,8437
0010269	Resisto 1500 HE IP66 7100lm 840	46	7100	0,8376	0,6009	0,7910	0,00	2,7059	0,5786	0,8376
0010270	Resisto 1500 HE IP66 9700lm 840	60	9700	0,8343	0,6045	0,7910	0,00	3,5294	0,5826	0,8343
0010278	Resisto 1500 HE IP66 8300lm 840	54	8300	0,8398	0,5956	0,7910	0,00	3,1765	0,5727	0,8398

Table 25: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: EM + EM PRO)

Product code	Product name	Power [W]	Lighting output [lm]	Manufac-turing stage (A1-A3)	Distribution stage (A4)	Installation stage (A5)	Replace Battery (B2)	Use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,0000	1,0000	1,0000	2,00	1,0000	1,0000	1,0000
0010342	RESISTO 1200 IP66 2800LM 840 EM PRO	25	2800	0,6413	0,5657	0,7061	2,00	1,4706	0,5493	0,6413
0010343	RESISTO 1200 IP66 5000LM 840 EM PRO	39	5050	0,6413	0,5657	0,7061	2,00	2,2941	0,5493	0,6413
0010344	RESISTO 1500 IP66 4200LM 840 EM PRO	34	4200	0,8085	0,7124	0,8278	2,00	2,0000	0,6989	0,8085
0010345	RESISTO 1500 IP66 7600LM 840 EM PRO	59	7600	0,8455	0,7442	0,8278	2,00	3,4706	0,7344	0,8455
0010346	RESISTO 1200 IP66 5000LM 840 EM	40	5050	0,6402	0,5616	0,7061	2,00	2,3529	0,5446	0,6402
0010347	RESISTO 1500 IP66 7600LM 840 EM	59	7600	0,8086	0,7138	0,8278	2,00	3,4706	0,7005	0,8086
0010348	RESISTO 1500 IP66 4200LM 840 EM	34	4200	0,8081	0,7116	0,8278	2,00	2,0000	0,6980	0,8081
0010349	RESISTO 1200 IP66 2800LM 840 EM	24	2800	0,6402	0,5616	0,7061	2,00	1,4118	0,5446	0,6402
0010350	RESISTO 1500 HE IP66 7100LM 840 EM	50	7100	0,8086	0,7138	0,8278	2,00	2,9412	0,7005	0,8086
0010351	RESISTO 1500 HE IP66 4000LM 840 EM	29	4000	0,8081	0,7116	0,8278	2,00	1,7059	0,6980	0,8081
0010352	RESISTO 1200 HE IP66 2800LM 840 EM	22	2800	0,6402	0,5616	0,7061	2,00	1,2941	0,5446	0,6402
0010353	RESISTO 1200 HE IP66 4800LM 840 EM	35	4800	0,6412	0,5663	0,7061	2,00	2,0588	0,5499	0,6412

Table 26: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: DA + DA 5xTH + DA EM)

Product code	Product name	Power [W]	Lighting output [lm]	Manufac-turing stage (A1-A3)	Distribution stage (A4)	Installation stage (A5)	Replace Battery (B2)	Use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,0000	1,0000	1,0000	2,00	1,0000	1,0000	1,0000
0010354	Resisto 1200 HE IP66 DALI 4800LM 840 EM	35	4800	0,6523	0,5952	0,7061	2,00	1,5441	0,5822	0,6523
0010355	RESISTO 1500 HE IP66 DALI 7100LM 840 EM	50	7100	0,8530	0,7671	0,8119	2,00	2,2059	0,7619	0,8530
0010356	RESISTO 1200 HE IP66 DALI 2800LM 840 EM	22	2800	0,6422	0,5695	0,7061	2,00	0,9706	0,5535	0,6422
0010357	RESISTO 1500 HE IP66 DALI 4000LM 840 EM	29	4000	0,8168	0,7404	0,8119	2,00	1,2794	0,7320	0,8168
0010224	Resisto 1200 IP66 DALI 2800lm 840	20	2800	0,6426	0,5065	0,6852	0,00	0,8824	0,4856	0,6426
0010225	Resisto 1200 IP66 DALI 5000lm 840	36	5050	0,6553	0,5160	0,6852	0,00	1,5882	0,4961	0,6553
0010236	Resisto 1200 HE IP66 DALI 2800lm 840	18	2800	0,6559	0,4843	0,6852	0,00	0,7941	0,4608	0,6559
0010237	Resisto 1200 HE IP66 DALI 4800lm 840	31	4800	0,6426	0,5065	0,6852	0,00	1,3676	0,4856	0,6426
0010284	Resisto 1200 IP66 DALI 2800lm 840 5xTH	20	2800	0,6369	0,5587	0,6958	0,00	0,8824	0,5426	0,6369
0010285	Resisto 1200 IP66 DALI 5000lm 840 5xTH	36	5000	0,6492	0,5681	0,6958	0,00	1,5882	0,5532	0,6492
0010259	Resisto 1500 IP66 DALI 4200lm 840	30	4200	0,8178	0,6195	0,7910	0,00	1,3235	0,5994	0,8178
0010260	Resisto 1500 IP66 DALI 7600lm 840	55	7600	0,8576	0,6500	0,7910	0,00	2,4265	0,6335	0,8576
0010261	Resisto 1500 IP66 DALI 8500lm 840	61	8500	0,8576	0,6500	0,7910	0,00	2,6912	0,6335	0,8576
0010273	Resisto 1500 HE IP66 DALI 4000lm 840	25	4000	0,8178	0,6195	0,7910	0,00	1,1029	0,5994	0,8178
0010274	Resisto 1500 HE IP66 DALI 7100lm 840	46	7100	0,8582	0,6492	0,7910	0,00	2,0294	0,6326	0,8582
0010275	Resisto 1500 HE IP66 DALI 9700lm 840	60	9700	0,8576	0,6500	0,7910	0,00	2,6471	0,6335	0,8576
0010279	Resisto 1500 HE IP66 DALI 8300lm 840	54	8300	0,8576	0,6500	0,7910	0,00	2,3824	0,6335	0,8576
0010286	Resisto 1500 IP66 DALI 4200lm 840 5xTH	30	4200	0,8000	0,6855	0,8016	0,00	1,3235	0,6719	0,8000
0010287	Resisto 1500 IP66 DALI 7600lm 840 5xTH	55	7600	0,8393	0,7161	0,8016	0,00	2,4265	0,7060	0,8393

Table 27: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: MW + MW-cor. + MW-EM)

Product code	Product name	Power [W]	Lighting output [lm]	Manu-fac-turing stage (A1-A3)	Distribution stage (A4)	Installation stage (A5)	Replace Battery (B2)	Use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,0000	1,0000	1,0000	2,00	1,0000	1,0000	1,0000
0010220	Resisto 1200 IP66 MW 2800lm 840	20	2800	0,6558	0,4910	0,6958	0,00	0,8824	0,4670	0,6558
0010221	Resisto 1200 IP66 MW 5000lm 840	36	5050	0,6527	0,4946	0,6958	0,00	1,5882	0,4710	0,6527
0010222	Resisto 1200 IP66 MWcor 2800lm 840	20	2800	0,6362	0,5210	0,6958	0,00	0,6471	0,5005	0,6362
0010223	Resisto 1200 IP66 MWcor 5000lm 840	36	5050	0,6495	0,5309	0,6958	0,00	1,1647	0,5116	0,6495
0010255	Resisto 1500 IP66 MW 4200lm 840	30	4200	0,8313	0,6073	0,8016	0,00	1,3235	0,5845	0,8313
0010256	Resisto 1500 IP66 MW 7600lm 840	55	7600	0,8206	0,6189	0,8016	0,00	2,4265	0,5975	0,8206
0010257	Resisto 1500 IP66 MWcor 4200lm 840	30	4200	0,8093	0,6342	0,8016	0,00	0,9706	0,6146	0,8093
0010258	Resisto 1500 IP66 MWcor 7600lm 840	55	7600	0,8493	0,6644	0,8016	0,00	1,7794	0,6484	0,8493
0010322	RESISTO 1200 IP66 MWCORINF 2800LM 840	20	2800	0,6362	0,5210	0,6958	0,00	0,6471	0,5005	0,6362
0010323	RESISTO 1200 IP66 MWCORINF 5000LM 840	36	5050	0,6495	0,5309	0,6958	0,00	1,1647	0,5116	0,6495
0010324	RESISTO 1500 IP66 MWCORINF 4200LM 840	30	4200	0,8093	0,6342	0,8016	0,00	0,9706	0,6146	0,8093
0010325	RESISTO 1500 IP66 MWCORINF 7600LM 840	55	7600	0,8493	0,6644	0,8016	0,00	1,7794	0,6484	0,8493
0010338	RESISTO 1200 IP66 2800LM 840 MW EM	25	2800	0,6320	0,5831	0,7159	2,00	1,1029	0,5675	0,6320
0010339	RESISTO 1200 IP66 5000LM 840 MW EM	39	5050	0,6320	0,5831	0,7159	2,00	1,7206	0,5675	0,6320
0010340	RESISTO 1500 IP66 4200LM 840 MW EM	34	4200	0,7961	0,7282	0,8376	2,00	1,5000	0,7154	0,7961
0010341	RESISTO 1500 IP66 7600LM 840 MW EM	56	7600	0,8355	0,7647	0,8376	2,00	2,4706	0,7562	0,8355

Table 28: Extrapolation coefficients at product level (Length: 1200mm + 1500mm / Type: SSA + SSC (-S) + SSE)

Product code	Product name	Power [W]	Lighting output [lm]	Manufac-turing stage (A1-A3)	Distribution stage (A4)	Installation stage (A5)	Replace Battery (B2)	Use stage (B6)	EOL stage (C1 to C4)	Benefits stage (D)
0070799	RESISTO 1500 IP65 4000LM 840 SSA EM	34	4200	1,0000	1,0000	1,0000	2,00	1,0000	1,0000	1,0000
0010429	RESISTO 1200 IP65 2800LM 840 SSA03H	20	2800	0,6866	0,6193	0,9410	0,00	0,5882	0,5816	0,6866
0010431	RESISTO 1200 IP65 5000LM 840 SSA03H	36	5050	0,6866	0,6193	0,9410	0,00	1,0588	0,5816	0,6866
0010433	RESISTO 1500 IP65 4200LM 840 SSA03H	30	4200	0,8372	0,7468	1,0204	0,00	0,8824	0,7148	0,8372
0010435	RESISTO 1500 IP65 7600LM 840 SSA03H	55	7600	0,8737	0,7754	1,0204	0,00	1,6176	0,7467	0,8737
0010226	Resisto 1200 IP66 2800lm 840 SSC	22	2800	0,6354	0,5237	0,6958	0,00	0,6471	0,5036	0,6354
0010227	Resisto 1200 IP66 5000lm 840 SSC	38	5000	0,6477	0,5334	0,6958	0,00	1,1176	0,5144	0,6477
0010228	Resisto 1200 IP65 2800lm 840 SSC S	24	2800	0,6981	0,5823	0,8651	0,00	0,7059	0,5491	0,6981
0010229	RESISTO 1200 IP65 5000 840 SSC S	40	5000	0,7086	0,5917	0,8651	0,00	1,1765	0,5597	0,7086
0010262	Resisto 1500 IP66 4200lm 840 SSC	32	4200	0,8082	0,6389	0,8016	0,00	0,9412	0,6198	0,8082
0010263	Resisto 1500 IP66 7600lm 840 SSC	57	7600	0,8487	0,6658	0,8016	0,00	1,6765	0,6499	0,8487
0010264	Resisto 1500 IP65 4200lm 840 SSC S	34	4200	0,8383	0,6978	0,9603	0,00	1,0000	0,6670	0,8383
0010265	Resisto 1500 IP65 7600lm 840 SSC S	59	7600	0,8775	0,7272	0,9709	0,00	1,7353	0,6986	0,8775
0010276	Resisto 1500 HE IP65 4000lm 840 SSE	26	4000	0,8501	0,6925	0,9709	0,00	0,7647	0,6598	0,8501
0010277	Resisto 1500 HE IP65 7100lm 840 SSE	47	7100	0,8873	0,7250	0,9709	0,00	1,3824	0,6961	0,8873
0010238	Resisto 1200 HE IP65 2800lm 840 SSE	20	2800	0,6793	0,5987	0,8651	0,00	0,5882	0,5674	0,6793
0010239	Resisto 1200 HE IP65 4800lm 840 SSE	32	4800	0,6853	0,5784	0,8651	0,00	0,9412	0,5448	0,6853
0010430	RESISTO 1200 IP65 2800LM 840 SSA03L	20	2800	0,6866	0,6193	0,9410	0,00	0,5882	0,5816	0,6866
0010432	RESISTO 1200 IP65 5000LM 840 SSA03L	36	5050	0,6866	0,6193	0,9410	0,00	1,0588	0,5816	0,6866
0010434	RESISTO 1500 IP65 4200LM 840 SSA03L	30	4200	0,8372	0,7468	1,0204	0,00	0,8824	0,7148	0,8372
0010436	RESISTO 1500 IP65 7600LM 840 SSA03L	55	7600	0,8740	0,7716	1,0204	0,00	1,6176	0,7424	0,8740
0010437	RESISTO 1500 HE IP65 8300LM 840 SSA03H	56	8300	0,8741	0,7731	1,0204	0,00	1,6471	0,7442	0,8741
0010438	RESISTO 1500 HE IP65 8300LM 840 SSA03L	54	8300	0,8740	0,7716	1,0204	0,00	1,5882	0,7424	0,8740
0010439	RESISTO 1500 HE IP65 9700LM 840 SSA03H	60	9700	0,8739	0,7720	1,0204	0,00	1,7647	0,7429	0,8739
0010440	RESISTO 1500 HE IP65 9700LM 840 SSA03L	60	9700	0,8739	0,7720	1,0204	0,00	1,7647	0,7429	0,8739
0010533	RESISTO 1200 IP65 2800LM 840 SSA01N	20	2800	0,7109	0,6495	0,9410	0,00	0,5882	0,6154	0,7109
0010534	RESISTO 1200 IP65 5000LM 840 SSA01N	36	5050	0,7109	0,6495	0,9410	0,00	1,0588	0,6154	0,7109
0010535	RESISTO 1500 IP65 4200LM 840 SSA01N	30	4200	0,8522	0,7771	1,0204	0,00	0,8824	0,7486	0,8522
0010536	RESISTO 1500 IP65 7600LM 840 SSA01N	55	7600	0,8869	0,8026	1,0204	0,00	1,6176	0,7771	0,8869
0010537	RESISTO 1500 HE IP65 8300LM 840 SSA01N	56	8300	0,8869	0,8026	1,0204	0,00	1,6471	0,7771	0,8869
0010538	RESISTO 1500 HE IP65 9700LM 840 SSA01N	60	9700	0,8869	0,8031	1,0204	0,00	1,7647	0,7776	0,8869

EM = Emergency

EM PRO = Emergency Professional

DA = DALI

DA 5xTH= DALI with Throughwiring

DA EM = DALI with Emergency

TH = Throughwiring

MW = MicroWave

MW-cor. = MicroWaveCorridor

MW-EM: MicroWave with Emergency

SSA = SylSmart connected systems

SSC = SylSmart connected systems

SSC S = SylSmart connected systems

SSE = SylSmart connected systems