GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION

AENOR
Confía

Functional street luminaire CIES 24 LED 601602

Environmental Product Declaration

EN ISO 14025:2010

EN 50693:2020

Date of issue: 2022-12-28
Expiry date: 2027-12-27

The declared validity is subject to the registration and publication on www.aenor.com

Designation code: GlobalEPD EN50693-005

Televes

TELEVÉS S.A.U.

The holder of this Declaration is responsible for its contents and for keeping the records and the documentation that supports data and statements included during the validity period.

EPD Holder

Televés S.A.U.
Rúa B. de Conxo, 17
Santiago de Compostela
15706, A Coruña
Spain

Tel. (+34) 981 522 200
Web https://www.televes.com/en

Life Cycle Assessment Report

Abaleo S.L.
D. José Luis Canga Cabañes
c/ Poza de la Sal, 8; 3º A
28031 Madrid
Spain

Tel. (+34) 639 901 043
Mail jlcanga@abaleo.es
info@abaleo.es
Web https://abaleo.es/

GlobalEPD Program Operator

AENOR Internacional S.A.U.
C/ Génova 6
28009 – Madrid
Spain

Tel. (+34) 902 102 201
Mail aenordap@aenor.com
Web www.aenor.com

AENOR is a founding member of ECO Platform, the European Association of Environmental Declarations verification Programmes

EN 50693: 2020
Independent verification of the declaration and data, according to EN ISO EN ISO 14025:2010 standard ☐ Internal ☒ External
Verification body AENOR Confía

1. General information

1.1. The company

Televés is a worldwide technology company specializing in the design, development and manufacture of telecommunication infrastructure solutions for homes, buildings and cities, including equipment and systems for our Hospitality, Healthcare, Aerospace, Defense and LED Lighting areas.

The company's journey started in 1958 as an antenna manufacturer, eventually consolidating as an international leader in the provision of solutions for the capture and distribution of radio and television signals. Soon the sector forced to focus the company's technological knowledge on other complementary areas, such as DTT coverage extension, professional measuring equipment, or new technologies for the distribution of audio-visual services.

To achieve an efficient technological specialization, the creation of specific companies to serve these sectors in a customized manner was recommended. In 1989 the Televes Corporation concept was born, putting a secure business, finance and industrial environment to the service of companies that concentrated in specific technologies.

Nowadays, Televés is the head of a corporation formed by more than 20 industrial and service companies, has more than 700 employees and 75 invention patents. Televés has 11 international subsidiaries covering Portugal, France, United Kingdom, Italy, Germany, Poland, Scandinavia, Russia, United States, China and United Arab Emirates, and it makes its products available in more than 100 countries over 5 continents, by using its extended distributor network.

Like any market leading company, Televés is constantly evolving, in line with the European Digital Agenda and the 2020 research and Innovation framework. In parallel with its profile as a telecommunication infrastructure specialist, Televés has developed complementary businesses that operate as service facilitators and through this infrastructure help build the Digital home.

With nearly 60 years of experience, Televés has launched more than 1,500 different products, an achievement explained by the authentic passion for manufacturing. The company manufactures in its own facilities to guarantee maximum quality. It's also a pioneer in setting up 4.0 production lines with its own certification and quality control laboratories. In this way, our products proudly display the European Technology Made in Europe label.

In parallel with its profile as a telecommunication infrastructure specialist, Televés has developed complementary businesses that operate as service facilitators and though this infrastructure help build the Digital home.

- Equipment for TV distribution in any format to the outlet
- High-capacity multiservice network infrastructures for operators and integrators
- Expertise in advanced TV and data services for Hospitality environments
- Professional LED Lighting solutions
- State-of-the-art healthcare platforms

1.2. Scope of EPD

The herein environmental product declaration provides environmental information with regard to the life cycle of the cradle-to-grave production process of CIES – the functional road luminaire by Televés S.A.U. – and covers every stage: manufacturing, distribution, assembly, use and end of life.

The role played by the product system that has been analyzed is the manufacturing of a luminaire for street lighting.

1.3. Life cycle and compliance

The herein EPD has been developed and verified in accordance with product category rule UNE-EN 50693, with standards ISO 14040, ISO 14044 and ISO 14025, and with the general regulations of the GlobalEPD Program.

Table 1-1 PCR information

Title	Product category rules for life cycle assessments of electronic and electrical products and systems
Date of approval	2019/08/12
Approved and developed by	CEN / CENELEC

This EPD covers the following life-cycle stages: manufacturing, distribution, assembly, use, end of life. This is a cradle-to-grave EPD.

This EPD may not be comparable with others as drawn up by other Programs or in accordance with different reference documents. More specifically, it may not be compared with Declarations that have not been drawn up and verified in accordance with UNE-EN 50693.

Likewise, EPDs may not be subject to comparison if the origin of the data is different (e. g. databases); if not all relevant information modules are included; or if they are not based on the same scenarios.

Comparison of electrical and electronic products shall be based on the same functions, using the same functional unit, i.e., including the product behavior through its whole life cycle, as well as the specifications stated in section 6.7.2 of the UNE-EN ISO 14025 standard.

1.4. Differences compared to prior versions of the herein EPD

There are no prior versions of the herein EPD.

2. The product

2.1. Identification of the product

The herein EPD applies to the CIES functional road luminaire, which has been designed as a lighting element for any kind of interurban and road areas.

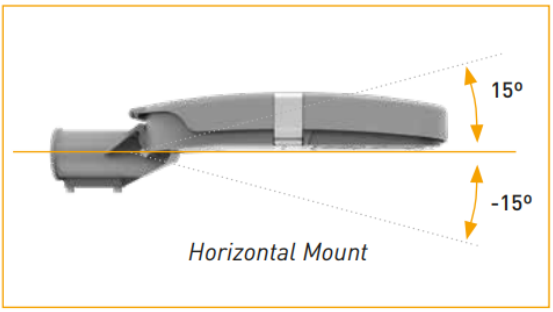
CPC code: 4653.

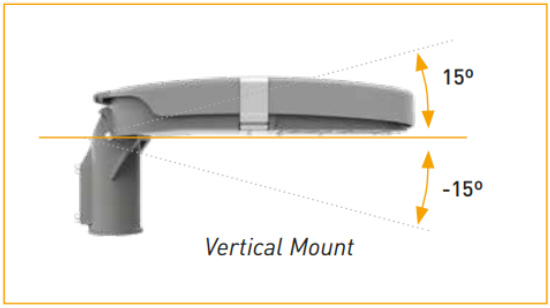
2.2. Product features

The manufacturer declares that the features of their CIES functional road luminaire – belonging to the series of luminaires intended for any kind of (inter)urban lighting – are as follows:

- ✓ Arm support for vertical and horizontal mount allowing for 15-degree upward or downward adjustment at 5-degree intervals to better suit the road conditions.
- ✓ Luminaire dimensions are 450 x 220 x 70mm – not including the arm.

- ✓ Fitted with a large variety of lenses – 15 different types – for both symmetric and asymmetric distribution, so they can adapt to the specific features of every road. The available color temperatures cover PC Amber, 2200K, 2700K, 3000K and 4000K.
- ✓ Finish color is optional, although default color combines RAL9002 for the superior cover and RAL7045 for the arm and the inferior area.
- ✓ CRI is over 70 for standard references and over 80 or 90 for on-demand references.





- ✓ Luminaires fitted with class-II electric isolation and non-metallic enclosure.
- ✓ IP code of the whole luminaire: 66
  IP code of its optic group: 68.
- ✓ IK code of the whole luminaire: 10.
- ✓ Maximum operating temperature is 40 degrees centigrade and minimum temperature is -35 degrees centigrade.
- ✓ The luminaire includes H07RN-F 700mm outdoor cable – dimensions 2 x 1mm2.
- ✓ The enclosure and the heat sink of the luminaire are made of technical polymer. Screws are made of stainless steel.
- ✓ Surge protection by default up to 10KV.
- ✓ Power supply of the luminaire is 220-240VAC 50/60Hz.

The technical specifications of the analyzed luminaire are as follows:

Table 2-1 Technical specifications

Reference	601602xxxxxxxx
No. of LEDs	24
Weight (kg)	4,337
Current (mA)	450
Total power consumption (±8%) (W)	70
Luminous flux (lm)	10.500
Working life (h)	> 100.000 (1)

(1) L90 B10 at 25ºC operating room temperature

2.3. Product composition

The composition of a 24 LED CIES 601602 luminaire is as follows:

Table 2-2 Composition

MATERIAL	WEIGHT (g)	%
PC	7,80	0,14%
Cu	12,03	0,22%
PA	3.246,59	58,15%
PBT	10,45	0,19%
Al	200,32	3,59%
Cable	34,60	0,62%
PA	49,20	0,88%
Stainless steel	203,42	3,64%
Zn	15,48	0,28%
Paper	0,68	0,01%
Other thermoplastics	0,66	0,01%
Other elastomers	33,00	0,59%
Silicone	8,56	0,15%
PE	1,16	0,02%
Power source	335,00	6,00%
Printed circuit board	72,17	1,29%
Other thermoplastics	0,50	0,01%
EPDM	1,22	0,02%
Other organic materials	2,36	0,04%
LED	102,18	1,83%
Total weight without packaging	**4.337,38**	
Cardboard	1215,5	21,77%
Paper	30,32	0,54%
Total weight with packaging	**5.583,20**	

No dangerous substances listed under “Candidate List of Substances of Very High Concern (SVHC) for authorization” are used by over 0,1% of the product weight during the product life cycle.

3. LCA information

3.1. Life Cycle Assessment

The *Report on the life cycle assessment for the EPD of the 24 LED CIES 601602 street luminaire by Televés S.A.U.*, dated November 2022, has been drawn up by the company Abaleo S.L., by means of Ecoinvent 3.8 (November 2021) and Environmental Footprint 2.0 databases and SimaPro 9.4.0.2 software, which was the latest version available at the time the life cycle assessment was performed.

To prepare the herein report, information from the different production centers of Televés where this luminaire is manufactured has been used.

The report on the LCA is in line with the recommendations and requirements stated in international standards ISO 14040:2006, ISO 14044:2006, and the Product Category Rule UNE-EN 50693:2020.

3.2. Report scope

The herein EPD describes the cradle-to-grave production of the 24 LED 601602 luminaire for using it as a lighting element for any kind of interurban areas and roads.

Specific information about the production process included in the herein LCA report comes from the different facilities where this Televés' luminaire is manufactured, covering production information of 2021.

The LCA does not include:

- Any equipment whose operating life is longer than 3 years.
- The construction of any building of the factory or other capital assets. Products used for building maintenance have not been considered either.
- The staff's business trips.
- The staff's commute to or from work.

3.3. Functional unit

The functional unit refers to one luminaire aimed at lighting any kind of (inter)urban areas – offering an output artificial flux between 120 and 150 lumen/W during a reference service life of 100 000 hours – together with its corresponding packaging.

3.4. Reference Service Life (RSL)

The Reference Service Life of this luminaire is 100 000 operating hours.

3.5. Allocation criteria

In accordance with the PCR criteria:

- Whenever possible, the product system has been expanded to avoid allocating environmental impacts of multi-output unit processes within the production process.
- When allocation was impossible to avoid, an allocation of the inputs and outputs of the system has been made on the basis of mass.

It has not been necessary to apply economic allocation criteria.

3.6. Cut-off rule

In accordance with the PCR requirements, the LCA includes the gross weight/volume of every material that has been used during the manufacturing process of the luminaire, in a way that at least 99% of the unit weight is included.

There has been no exclusion of energy or raw-material consumption.

3.7. Representativeness, quality and selection of data

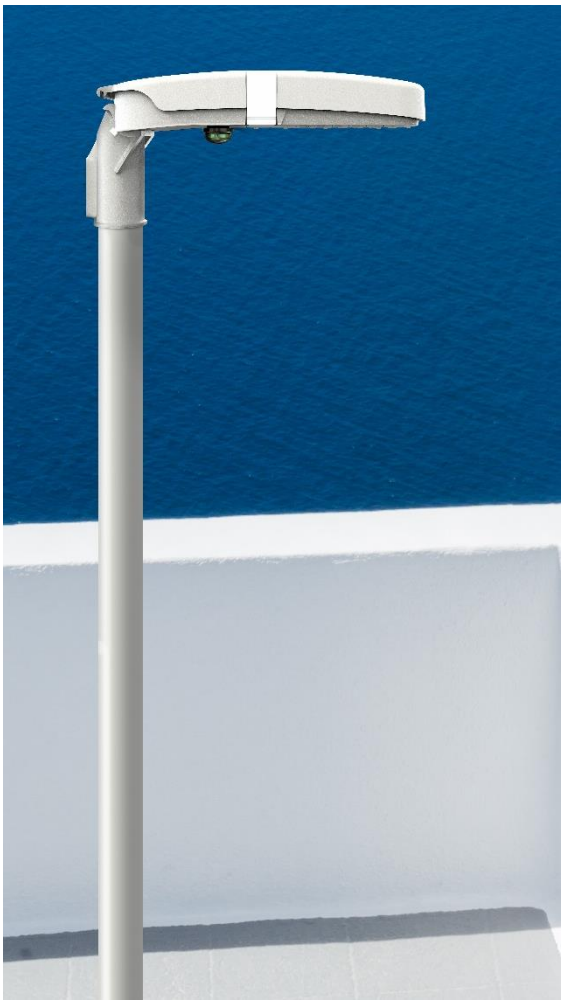
In order to model the production process of the 24 LED CIES 601602 functional Street

luminaire, production data from the different manufacturing centres of Televes Corporation for the year 2021 – which was a representative year of production – have been used. The following information has been obtained from such factories: energy and raw-material consumption; waste production; and transportation distances.

When necessary, the Ecoinvent 3.8 (November 2021) and the Environmental Footprint 2.0 databases have been used. These were the latest versions available at the time the LCA was drawn up. SimaPro 9.4.0.2 software has been used to: manage inventory data; to model the LCA; and to calculate the environmental-impact categories requested by the Product Category Rule. This was the latest version available at the time the report was drawn up.

In order to choose the most representative processes, the following criteria have been applied:

- Data representing the technological development applied in the manufacturing processes. In case no information is available, data representing an average technology should be chosen.
- Geographical data referring to the closest locations and, where appropriate, average data of regional scope should be used.
- Data as up to date as possible.



In order to assess the quality of primary data with regard to the production of the 24 LED CIES 601602 functional street luminaire, criteria of the semi-quantitative assessment of the data quality proposed by the European Union in their Organization Environmental Footprint Guide has been used. Below you will find the results obtained:

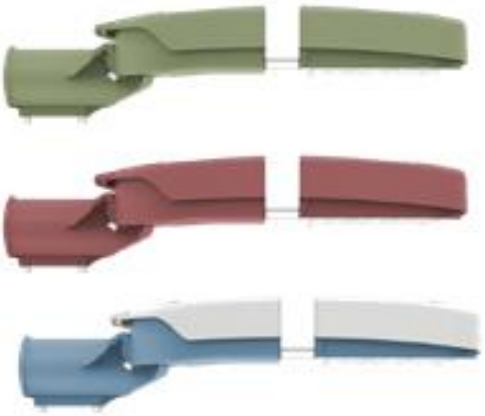
- Very good integrity. Rating: 1.
- Good methodological appropriateness and consistency. Rating: 2.
- Very good time-related representativeness. Rating: 1.
- Good technological representativeness. Rating: 2.
- Very good geographical representativeness. Rating: 1.
- Very low data uncertainty. Rating: 2.

In accordance with the aforementioned information, the Data Quality Rating (DQR) is 9/6= 1.5, indicating that the data quality is excellent.

For a better understanding of the assessment on data quality, please note that criteria go from 1 to 5 (the lower the score, the better the quality). To obtain the final score, the following table is applied:

Table 3-1 Data quality

Overall data quality rating (DQR)	Overall data quality level
≤ 1,6	Excellent quality
1,6 a 2,0	Very good quality
2,0 a 3,0	Good quality
3 a 4,0	Fair quality
> 4	Poor quality



4. System boundaries, scenarios and additional technical information

The product system analysed in the LCA involving the production of the 24 LED CIES 601602 functional street luminaire is cradle to grave. The following manufacturing stages have been analysed:

4.1. Manufacturing stage

The manufacturing stage includes inputs and outputs with regard to:

- Production (extraction, handling, transformation, etc.) of raw materials required for the production of components. This includes every flow associated with waste generated during the production processes until its end-of-waste status or the disposal of final wastes.
- Industrial processes related to transformation or manufacturing of different parts, components and products.
- Transportation of materials, parts and components from the suppliers to the warehouse, and from the warehouse to the production, assembly and/or packing centers.
- Transportation of every raw and auxiliary material – from the production sites (suppliers) to Televés' facilities – has been taken into account. Transportation has been performed by truck and ship.
- Production of auxiliary materials used in manufacturing.
- Industrial processes of assembling the luminaire and packing its components.
- Transportation of the product from the logistical center to the final packing center in Portugal.

4.2. Distribution stage

The transportation of the final product in its package from the logistical center to the customer has been considered.

4.3. Installing stage

For this stage, inputs and outputs related to the following have been taken into account:

- 20-minute crane operation for luminaire installation.
- Management of the generated waste resulting from packing.

4.4. Use stage

Energy consumption of the luminaire during its whole operating life has been considered – accounting for 100 000 operating hours.

No maintenance is required during the referred operating life of the luminaire.

4.5. Dismantling stage

This stage has included the inputs and outputs associated with operating a crane for 20 minutes to dismantle the luminaire.

4.6. End-of-life stage

The end-of-life scenario of the product is as follows:

Table 4-1 End-of-life scenario

Operation / process	Main parameters
Demolition	It has been considered that a crane is used for 20 minutes during the dismantling and deconstruction of the luminaire: 0,3622 litres of diesel
Collection process, specified by type	3,889 kg collected separately. 0,449 kg collected with other type of waste.
Recovery system, specified by type	0 kg for re-use. 0,373 kg for recycling. 1,71 kg for energy recovery.
Disposal, specified by type	2,253 kg of product or materials for final disposal.
Assumptions for the development of scenarios (transport)	Waste transportation in a 16-32 ton EURO5 truck: - Average distance from the installation point to the special waste collection center: 50 km.

5. Declaration of the environmental parameters of LCA and LCI.

Parameters of environmental impact corresponding to 1 unit of the CIES 24 LED 601602 luminaire

CIES 24 LED 601602 luminaire *Functional unit: 1 unit*					
Parameter	**Manufacturing stage**	**Distribution stage**	**Installing stage**	**Use stage**	**End-of-life stage**
GWP-total	6,21E+01	4,91E-01	1,15E+00	8,03E+02	7,66E+00
GWP-fossil	6,17E+01	4,91E-01	1,15E+00	7,74E+02	7,34E+00
GWP-biogenic	2,25E-01	2,87E-05	8,01E-05	1,36E+01	3,15E-01
GWP-luluc	1,37E-01	3,97E-06	2,80E-05	1,51E+01	7,56E-05
ODP	3,98E-06	1,16E-07	2,55E-07	8,72E-05	4,58E-07
AP	3,78E-01	1,70E-03	6,44E-03	4,17E+00	1,38E-02
EP-freshwater	2,94E-03	2,51E-07	8,01E-07	1,77E-02	4,51E-06
EP-marine	7,19E-02	5,45E-04	2,65E-03	8,74E-01	6,55E-03
EP-terrestrial	6,22E-01	6,00E-03	2,91E-02	1,22E+01	6,47E-02
POCP	2,34E-01	1,64E-03	8,16E-03	2,58E+00	1,79E-02
ADP-minerals &metals [2]	4,82E-03	2,13E-08	5,89E-08	5,88E-05	1,16E-07
ADP-fossil [2]	8,25E+02	6,94E+00	1,57E+01	1,15E+04	2,80E+01
WDP [2]	5,35E+01	-6,63E-04	5,28E-03	1,07E+03	2,99E-02

GWP - total (kg CO_2 eq): Global warming potential; **GWP - fossil (kg CO_2 eq)**: Global warming potential – fossil fuels; **GWP - biogenic (kg CO_2 eq)**: Global warming potential – biogenic; **GWP - luluc (kg CO_2 eq)**: Global warming potential of land use and land-use changes; **ODP (kg CFC-11 eq)**: stratospheric ozone depletion potential; **AP (mol H+ eq)**: Acidification potential, accumulated exceedance; **EP-freshwater (kg P eq)**: Eutrophication potential, proportion of nutrients that reach a pocket of freshwater; **EP-marine (kg N eq)**: Eutrophication potential, proportion of nutrients that reach a pocket of sea water; **EP-terrestrial (mol N eq)**: Eutrophication potential, accumulated exceedance; **POCP (kg NMVOC eq)**: tropospheric ozone creation potential; **ADP-minerals&metals (kg Sb eq)**: Abiotic Depletion Potential for non-fossil resources; **APD-fossil (MJ, v.c.n)**: Abiotic Depletion Potential for fossil resources; **WDP (m^3 eq)**: Water (user) deprivation potential, deprivation-weighted water consumption.

Table 5-1 Parameters describing environmental impacts established by UNE-EN 15804 standard corresponding to the production of 1 CIES 24 LED 601602 luminaire

CIES 24 LED 601602 luminaire *Functional unit: 1 unit*					
Parameter	**Manufacturing stage**	**Distribution stage**	**Installing stage**	**Use stage**	**End-of-life stage**
PM	3,47E-06	3,66E-08	1,11E-07	2,39E-05	2,28E-07
IRP [1]	2,39E+00	3,02E-02	6,86E-02	2,81E+02	1,21E-01
ETP-fw [2]	2,02E+03	2,82E+00	5,29E+00	1,77E+04	3,29E+01
HTP-c [2]	7,36E-08	3,96E-11	1,07E-09	1,94E-07	3,21E-09
HTP-nc [2]	1,85E-06	4,60E-09	6,50E-09	9,45E-06	1,25E-07
SQP [2]	2,04E+02	1,87E-02	4,95E-02	2,98E+04	8,62E-01

PM (incidence of diseases): Potential for disease occurrence due to emissions of particulate matter; **IRP (kBq U235 eq)**: Exposure efficiency of the human potential relative to U235; **ETP-fw (CTUe)**: Comparative potential of toxic unit for ecosystems – freshwater; **HTP-c (CTUh)**: Comparative potential of toxic unit for ecosystems – carcinogenic effects; **HTP-nc (CTUh)**: Comparative potential of toxic unit for ecosystems – non-carcinogenic effects; **SQP (Pt)**: Land quality potential index.

Note 1. This impact category deals mainly with the potential impacts of low doses of ionizing radiation on human health from the nuclear fuel cycle. It does not consider effects resulting from possible nuclear accidents and occupational exposure due to the disposal of radioactive waste in underground facilities. The ionizing radiation potential of soil – due to radon or some building materials – is not measured in this parameter either.

Note 2. The results of this environmental impact indicator should be used carefully as the results are highly uncertain and experience with this parameter is limited.

Use of resources of 1 unit of CIES 24 LED 601602 luminaire

CIES 24 LED 601602 luminaire *Functional unit: 1 unit*					
Parameter	**Manufacturing stage**	**Distribution stage**	**Installing stage**	**Use stage**	**End-of-life stage**
PERE	9,89E+01	1,07E-02	2,56E-02	2,01E+04	8,63E-02
PERM	1,82E+01	1,52E-03	3,51E-03	4,14E+03	8,63E-03
PERT	1,17E+02	1,22E-02	2,91E-02	2,43E+04	9,49E-02
PENRE	9,48E+02	0,00E+00	0,00E+00	9,75E+00	0,00E+00
PENRM	1,01E+03	7,05E+00	1,60E+01	1,26E+04	2,85E+01
PENRT	1,96E+03	7,05E+00	1,60E+01	1,26E+04	2,85E+01
SM	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	6,51E-01	3,51E-04	7,91E-04	6,75E+00	3,30E-03

PERE (MJ, v.c.n.): Use of renewable primary energy excluding renewable primary energy resources used as raw material; **PERM (MJ, v.c.n.):** Use of renewable primary energy used as raw material; **PERT (MJ, v.c.n.):** Total use of renewable primary energy; **PENRE (MJ, v.c.n.):** Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw material; **PENRM (MJ, v.c.n.):** Use of non-renewable primary energy used as raw material; **PENRT (MJ, v.c.n.):** Total use of non-renewable primary energy; **SM (kg)**: Use of secondary materials; **RSF (MJ, v.c.n.):** Use of renewable secondary fuels; **NRSF (MJ, v.c.n.):** Use of non-renewable secondary fuels; **FW (m^3)**: Net use of fresh water resources.

Waste categories of 1 unit of CIES 24 LED 601602 luminaire

CIES 24 LED 601602 luminaire *Functional unit: 1 unit*					
Parameter	**Manufacturing stage**	**Distribution stage**	**Installing stage**	**Use stage**	**End-of-life stage**
HWD	4,65E-03	1,83E-05	4,13E-05	1,21E-02	8,08E-05
NHWD	5,30E+00	3,65E-04	1,17E-03	1,81E+01	6,67E-01
RWD	1,92E-03	4,97E-05	1,13E-04	1,42E-01	1,99E-04

HWD (kg): Hazardous waste disposed; **NHWD (kg)**: Non-hazardous waste disposed; **RWD (kg)**: Radioactive waste disposed.

Output flows of 1 unit of CIES 24 LED 601602 luminaire

CIES 24 LED 601602 luminaire *Functional unit: 1 unit*					
Parameter	**Manufacturing stage**	**Distribution stage**	**Installing stage**	**Use stage**	**End-of-life stage**
CRU	0E+00	0E+00	0E+00	0E+00	0E+00
MFR	0E+00	0E+00	1,25E+00	0E+00	3,73E-01
MER	0E+00	0E+00	0E+00	0E+00	1,71E+00
EE	0E+00	0E+00	0E+00	0E+00	0E+00

CRU (kg): Components for re-use; **MFR (kg)**: Materials for recycling; **MER (kg)**: Materials for energy recovery; **EE (MJ)**: Exported energy

Estimated impact results are relative and do not show the final value of the impact categories nor do they refer to threshold values, safety margins or risks.

6. Additional environmental information

6.1. Indoor-air emissions

The manufacturer declares that the CIES 24 LED 601602 street luminaire does not generate emissions into the indoor air during its operating life.

6.2. Release to soil and water

The manufacturer declares that the CIES 24 LED 601602 street luminaire does not generate emissions to soil or water during its operating life.

6.3. Biogenic carbon content

Both the Televés luminaire and its packaging contain materials with biogenic carbon.

The weight of such material containing biogenic carbon used during the manufacturing of the luminaire accounts for less than 5% of the total weight of the final product. Therefore, in accordance with the indications of the reference regulation, the declaration of biogenic carbon content is omitted.

The packaging used to ship the analyzed final product – the luminaire – accounts for 20.88% of the total weight of the functional unit, so its biogenic carbon content is declared.

Table 6-1 Biogenic carbon content

Biogenic carbon content	Kg C per functional unit
Product	-
Packaging	8,37E-03

References

[1] UNE-EN 50693. Product category rules for life cycle assessments of electronic and electrical products and systems.

[2] UNE-EN 15804:2012+A2:2020. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

[3] PCR – Product Category Rules – EPDItaly007. Electronic and electrical products and systems, rev.2.0, 2020/10/21.

[4] Sub-PCR – EPDItaly020: Electronic and electrical products and systems, Public lighting equipment, rev.1.0, 2021/06/07.

[5] General Instructions of the GlobalEPD Programme, 2nd revision. AENOR. February 2016.

[6] UNE-EN ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations – Principles and procedures (ISO 14025:2006).

[7] UNE-EN ISO 14040:2006/A1:2021.. Environmental management – Life cycle assessment – Principles and framework – Amendment 1. (ISO 14040:2006/Amd 1:2020).

[8] UNE-EN ISO 14044:2006/A1:2021. Environmental management – Life cycle assessment – Requirements and guidelines – Amendment 2. (ISO 14044:2006/Amd 2:2020).

[9] Report on the life cycle assessment for the EPD of the 24 LED 601602 functional Street luminaire by Televés S.A.U. Drawn up by Abaleo S.L.. December 2022. Version 3.

[10] Databases and environmental impact methodologies applied with SimaPro 9.4.0.2 software.

Table of contents

AENOR
Confía

Una declaración ambiental verificada

GlobalEPD