

Environmental Product Declaration



In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

KOMBIC100, KOMBIC150 and KOMBIC200 Luminaires

from

LAMP S.A.U.



Programme:

Programme operator:

EPD registration number:

Publication date:

Valid until:

The International EPD® System, www.environdec.com

EPD International AB

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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



Table of Content

General information.....	3
Programme information	3
Company information.....	4
Product informarion	5
LCA information.....	27
A1-A3 Product stage	28
A4-A5 Installation stage	29
B1-B7 Use stage.....	30
C1-C4 End of life stage.....	31
D Reuse, recovery and recycling potential stage	32
Información adicional.....	34
Content information.....	34
Environmental information	35
Information related to Sector EPD.....	39
References.....	39
Annex. Conversion factors.....	40

General information

Programme information

Programme:	The International EPD® System
Direction:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): <i>PCR 2019:14 Construction Products (EN 15804:A2), version 1.11</i>
PCR review was conducted by: <i>El Comité Técnico del Sistema Internacional EPD®.</i>
<i>Presidente: Claudia A. Peña. Contact via info@environdec.com</i>
Independent third-party verification of the declaration and data, according to ISO 14025:2006:
<input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier: <i>Marcel Gómez Consultoria Ambiental</i> Verifier: <i>Marcel Gómez Ferrer</i> Phone: +34 630 64 35 93 Email: info@marcelgomez.com Website: www.marcelgomez.com
Procedure for follow-up of data during EPD validity involves third party verifier:
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: LAMP S.A.U.

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<https://www.lamp.es/>

Description of the organization: At Lamp we are **work** and **attitude**, we are **Worktitude for Light**

At Lamp we create lighting solutions that respond to new ways of life by providing well-being through good lighting, generating a positive impact on both people and the environment.

How do we do it? Through our **Worktitude**...

For Wellbeing: understanding the lighting as an **element for improving people's well-being**.

For Life: encouraging projects with a **positive impact on the environment**.

For innovation: understanding that innovation is a **systemic and systematic process**.

For **50 years** we have been turning our **customers' lighting challenges into reality**.

LIGHT IS OUR DNA: Combining experience, knowledge, and constant evolution.

INTERNATIONAL VISION, LOCAL COMMITMENT: From our HQ in Terrassa and local presence, we reach more than 70 countries.

HUMAN TEAM: Engineers, designers and other professional profiles working together on your project.

CO-CREATION: Developing special lighting solutions, making each project unique.

Main application segments:

- Education, Office, Common Spaces, Health Care&Wellness, Hight Density transit;
- Commercial Retail;
- Architectural outdoor.

Certifications related to the product or the management system: Lamp 's fundamental purpose is to achieve full customer satisfaction by meeting and exceeding their expectations, while generating the least possible environmental impacts. This philosophy basically responds to the application and implementation of the following points:

- Lamp's products must comply with all legal regulations required in the Spanish and European Regulations (EC), p. eg EN 62471 Photobiological safety.
- Compliance with applicable environmental legislation and regulations, as well as endorsed voluntary requirements.
- A quality and environmental management system based on the UNE-EN ISO 9001:2015 and UNE-EN ISO 14001:2015 standards, which facilitates labor and improves continuously the offered products and services in an environmentally respectful manner.

Name and location of production site: C/ Córdoba 16, 08226 Terrassa (Barcelona), Spain.

Product information

Product name: This EPD® represents the **KOMBIC** family from **Lamp**, including the following models:

KOMBIC Downlights (recessed) with 17 models:

- Kombic 100 Opal.
- Kombic 100 Opal Tunable White.
- Kombic 100 Opal Wellbeing.
- Kombic 100 Opal IP55.
- Kombic 100 Opal IP55 Wellbeing.
- Kombic 100 Optic.
- Kombic 100 Optic Tunable White.
- Kombic 100 Optic Wellbeing.
- Kombic 150 Opal.
- Kombic 150 Opal Tunable White.
- Kombic 150 Opal Wellbeing.
- Kombic 150 Opal IP55.
- Kombic 150 Optic.
- Kombic 150 Optic Tunable White.
- Kombic 150 Optic Wellbeing.
- Kombic 150 Multispectral.
- Kombic 200.

KOMBIC Surface with 19 models:

- Kombic 100 Surface Opal.
- Kombic 100 Surface Opal TW.
- Kombic 100 Surface Opal Wellbeing.
- Kombic 100 Surface Track Opal.
- Kombic 100 Surface Track Opal TW.
- Kombic 100 Surface Track Opal Wellbeing.
- Kombic 100 Surface Optic.
- Kombic 100 Surface Optic TW.
- Kombic 100 Surface Optic Wellbeing.
- Kombic 100 Surface Track Optic.
- Kombic 100 Surface Track Optic TW.
- Kombic 100 Surface Track Optic Wellbeing.
- Kombic 150 Surface Opal.
- Kombic 150 Surface Opal TW.
- Kombic 150 Surface Opal Wellbeing.
- Kombic 150 Surface Optic.
- Kombic 150 Surface Optic TW.
- Kombic 150 Surface Optic Wellbeing.
- Kombic 200 Surface.

Product identification: General indoor lighting.

The references available on the market are differentiated by a combination of codes. These codes indicate a series of characteristics such as type of installation, dimensions, light unit, color rendering index, type of color in Kelvin degree, type of switch and finishing color. The references studied in this EPD (divided by first, the type of installation and second, the diffuser model) are:

In terms of the 17 **KOMBIC Downlights (recessed)** models:

1) Kombic 100 Opal



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K11	RD	Round	15	1500lm	40	IP 43	OP	Opal	9	90	27	2700 K	N	ON/OFF	R	Bright	W	White 02
	SQ	Square									30	3000 K	D	DALI	M	Metalized Matt		
											40	4000 K			W	White		
			20	2000lm	40	IP 43	OP	Opal	8	80	30	3000 K						
											40	4000 K						
									9	90	27	2700 K						
											30	3000 K						
											40	4000 K						
			25	2500lm	40	IP 43	OP	Opal	8	80	30	3000 K						
											40	4000 K						

2) Kombic 100 Opal Tunable White



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K11	RD	Round	20	2000lm	40	IP 43	OP	Opal	9	90	TW	Tunable White	D	DALI	R	Bright	W	White 02
	SQ	Square													M	Metalized Matt		

3) Kombi 100 Opal Wellbeing



4) Kombic 100 Opal IP55



5) Kombic 100 Opal IP55 Wellbeing



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes	
K11	RD	Round	15	1500lm	55	IP 55	OP	Opal	WB3	3000 WB	N	ON/OFF	M	Metalized Matt	W	White 02
			20	2000lm					WB4	4000 WB	D	DALI				

6) Kombic 100 Optic



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K11	RD	Round	15	1500lm	40	IP 43	WF	WFL 50°	9	90	27	2700 K	N	ON/OFF	B	Black	B	Black 02
	SQ	Square									30	3000 K	D	DALI			W	White 02
											40	4000 K			M	Metalized Matt	W	White 02
			20	2000lm	40	IP 43	WF	WFL 50°	8	80	30	3000 K	N	ON/OFF	W	White		
											40	4000 K	D	DALI	B	Black	B	Black 02
									9	90	27	2700 K	N	ON/OFF			W	White 02
											30	3000 K	D	DALI	M	Metalized Matt	W	White 02
											40	4000 K			W	White		
			25	2500lm	40	IP 43	WF	WFL 50°	8	80	30	3000 K	N	ON/OFF	B	Black	B	Black 02
											40	4000 K	D	DALI			W	White 02
															M	Metalized Matt	W	White 02
															W	White		
															B	Black	B	Black 02
																	W	White 02

																	M	Metalized Matt	W	White 02
																	W	White		

7) Kombic 100 Optic Tunable White



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K11	RD	Round	20	2000lm	40	IP 43	OP	Opal	9	90	TW	Tunable White	D	DALI	R	Bright	W	White 02
	SQ	Square													M	Metalized Matt		
															W	White		

8) Kombic 100 Optic Wellbeing



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K11	RD	Round	15	1500lm	40	IP 43	WF	WFL 50°	9	90	WB3	3000 WB	N	ON/OFF	R	Bright	W	White 02
	SQ	Square	20	2000lm							WB4	4000 WB	D	DALI	M	Metalized Matt		
															W	White		

9) Kombic 150 Opal



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K21	RD	Round	20	2000lm	40	IP 43	OP	Opal	9	90	27	2700 K	N	ON/OFF	R	Bright	W	White 02
			30	3000lm							30	3000 K	D	DALI	M	Metalized Matt		
											40	4000 K			W	White		
									8	80	30	3000 K						
											40	4000 K						
			35	3500lm	40	IP 43	OP	Opal	8	80	30	3000 K						
											40	4000 K						

10) Kombic 150 Opal Tunable White



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K21	RD	Round	30	3000lm	40	IP 43	OP	Opal	9	90	TW	Tunable White	D	DALI	R	Bright	W	White 02
															M	Metalized Matt		
															W	White		

11) Kombic 150 Opal Wellbeing



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K21	RD	Round	20	2000lm	40	IP 43	OP	Opal	WB3	3000 WB	N	ON/OFF	R	Bright	W	White 02
			25	2500lm					WB4	4000 WB	D	DALI	M	Metalized Matt		
													W	White		
					55	IP 55	OP	Opal	WB3	3000 WB	N	ON/OFF	M	Metalized Matt		
									WB4	4000 WB	D	DALI				

12) Kombic 150 Opal IP55



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K21	RD	Round	20	2000lm	55	IP 55	OP	Opal	8	80	30	3000 K	N	ON/OFF	M	Metalized Matt	W	White 02
			30	3000lm							40	4000 K	D	DALI				
			35	3500lm														

13) Kombic 150 Optic



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Acabados	
K21	RD	Round	20	2000lm	40	IP 43	WF	WFL 50°	9	90	27	2700 K	N	ON/OFF	B	Black	B	Black 02
			30	2500lm							30	3000 K	D	DALI			W	White 02
											40	4000 K			M	Metalized Matt	W	White 02
									8	80	30	3000 K	N	ON/OFF	W	White		
											40	4000 K	D	DALI	B	Black	B	Black 02
			35	3500lm	40	IP 43	WF	WFL 50°	8	80	30	3000 K	N	ON/OFF			W	White 02
											40	4000 K	D	DALI	M	Metalized Matt	W	White 02
															W	White		
															B	Black	B	Black 02
																	W	White 02
															M	Metalized Matt	W	White 02
															W	White		

14) Kombic 150 Optic Tunable White



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K21	RD	Round	30	3000lm	40	IP 43	WF	WFL 50°	9	90	TW	Tunable White	D	DALI	B	Black	B	Black 02
																	W	White 02
															M	Metalized Matt	W	White 02
															W			

15) Kombic 150 Optic Wellbeing



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K21	RD	Round	20	2000lm	40	IP 43	WF	WFL 50°	WB3	3000 WB	N	ON/OFF	B	Black	B	Black
			25	2500lm					WB4	4000 WB	D	DALI			W	White 02
													M	Metalized Matt	W	White 02
													W	White		

16) Kombic 150 Multispectral



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K21	RD	Round	30	3000lm	20	IP 20	VW	VWFL 90°	MS	Multispectral	W	Wifi	W	White	B	Black
					65	IP 65	WF	WFL 62°	WB4	4000 WB	W	Wifi	R	Bright	W	White 02

17) Kombic 200



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K31	RD	Round	20	2000lm	40	IP 44	OP	Opal	9	90	TW	Tunable White	D	DALI	R	Bright	W	White
			30	3000lm	40	IP 44	OP	Opal	8	80	30	3000 K	N	ON/OFF	M	Metalized Matt		
											40	4000 K	D	DALI	M	Metalized Matt		
									9	90	TW	Tunable White	D	DALI	R	Bright		
															M	Metalized Matt		
			40	4000lm	40	IP 44	OP	Opal	8	80	30	3000 K	N	ON/OFF	R	Bright		
			50	5000lm							40	4000 K	D	DALI	M	Metalized Matt		
	SQ	Square	30	3000lm	40	IP 44	OP	Opal	8	80	30	3000 K	N	ON/OFF	R	Bright		
											40	4000 K	D	DALI				
			40	4000lm	40	IP 44	OP	Opal	8	80	30	3000 K	N	ON/OFF	R	Bright		
			50	5000lm							40	4000 K	D	DALI				

In turn, the 19 **KOMBIC Surface** models have the following references:

- 1) Kombic 100 Surface Opal



Family	Installation	Lm LED	IP	Optics	IRC	K	Switch	Reflective Finishes	Exterior Finishes
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K11	SF	Surface	15	1500lm	40	IP 43	OP	Opal	9	90	27	2700 K	N	ON/OFF	R	Bright	W	White 02
											30	3000 K	D	DALI	M	Metalized Matt	B	Black 02
											40	4000 K			W	White		
			20	2000lm	40	IP 43	OP	Opal	9	90	27	2700 K						
											30	3000 K						
											40	4000 K						
									8	80	30	3000 K						
											40	4000 K						
			25	2500lm	40	IP 43	OP	Opal	8	80	30	3000 K						
											40	4000 K						

2) Kombic 100 Surface Opal TW



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K11	SF	Surface	20	2000lm	40	IP 43	OP	Opal	9	90	TW	Tunable White	D	DALI	R	Bright	W	White 02
															M	Metalized Matt	B	Black 02
															W	White		

3) Kombic 100 Surface Opal Wellbeing



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K11	SF	Surface	15	1500lm	40	IP 43	OP	Opal	WB3	3000 WB	N	ON/OFF	R	Bright	W	White 02

			20	2000lm					WB4	4000 WB	D	DALI	M	Metalized Matt	B	Black 02
													W	White		

4) Kombic 100 Surface Track Opal



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K11	TK	Track	15	1500lm	40	IP 43	OP	Opal	9	90	27	2700 K	N	ON/OFF	R	Bright	W	White 02
	ST	Sus. Track									30	3000 K	D	DALI	M	Metalized Matt	B	Black 02
											40	4000 K			W	White		
			20	2000lm	40	IP 43	OP	Opal	9	90	27	2700 K						
											30	3000 K						
											40	4000 K						
									8	80	30	3000 K						
											40	4000 K						
			25	2500lm	40	IP 43	OP	Opal	8	80	30	3000 K						
											40	4000 K						

5) Kombic 100 Surface Track Opal TW



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K11	TK	Track	20	2000lm	40	IP 43	OP	Opal	TW	Tunable White	D	DALI	R	Bright	W	White 02
	ST	Sus. Track											M	Metalized Matt	B	Black 02

6) Kombic 100 Surface Track Opal Wellbeing



7) Kombic 100 Surface Optic

18

8) Kombic 100 Surface Optic TW



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K11	SF	Surface	20	2000lm	40	IP 43	WF	WFL 50°	9	90	TW	Tunable White	D	DALI	B	Black	W	White 02
															M	Metalized Matt	B	Black 02
															W	White		

9) Kombic 100 Surface Optic Wellbeing



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K11	SF	Surface	15	1500lm	40	IP 43	WF	WFL 50°	9	90	WB3	3000 WB	N	ON/OFF	B	Black	W	White 02
			20	2000lm							WB4	4000 WB	D	DALI	M	Metalized Matt	B	Black 02
															W	White		

10) Kombic 100 Surface Track Optic



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K11	TK	Track	15	1500lm	40	IP 43	WF	WFL 50°	9	90	27	2700 K	N	ON/OFF	B	Black	W	White 02
	ST	Sus. Track									30	3000 K	D	DALI	M	Metalized Matt	B	Black 02
											40	4000 K			W	White		
			20	2000lm	40	IP 43	WF	WFL 50°	9	90	27	2700 K						
											30	3000 K						
											40	4000 K						
									8	80	30	3000 K						
											40	4000 K						
			25	2500lm	40	IP 43	WF	WFL 50°	8	80	30	3000 K						
											40	4000 K						

11) Kombic 100 Surface Track Optic TW



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K11	TK	Track	20	2000lm	40	IP 43	WF	WFL 50°	9	90	TW	Tunable White	D	DALI	B	Black	W	White 02
	ST	Sus. Track													M	Metalized Matt	B	Black 02
															W	White		

12) Kombic 100 Surface Track Optic Wellbeing



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K11	TK	Track	15	1500lm	40	IP 43	WF	WFL 50°	WB3	3000 WB	N	ON/OFF	B	Black	W	White 02
	ST	Sus. Track	20	2000lm					WB4	4000 WB	D	DALI	M	Metalized Matt	B	Black 02
													W	White		

13) Kombic 150 Surface Opal



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K21	SF	Surface	20	2000lm	40	IP 43	OP	Opal	9	90	27	2700 K	N	ON/OFF	R	Bright	W	White 02
			30	3000lm							30	3000 K	D	DALI	M	Metalized Matt	B	Black 02
											40	4000 K			W	White		
									8	80	30	3000 K						
											40	4000 K						
			35	3500lm	40	IP 43	OP	Opal	8	80	30	3000 K						
											40	4000 K						

14) Kombic 150 Surface Opal TW



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K21	SF	Surface	30	3000lm	40	IP 43	OP	Opal	9	90	TW	Tunable White	D	DALI	R	Bright	W	White 02
															M	Metalized Matt	B	Black 02
															W	White		

15) Kombic 150 Surface Opal Wellbeing



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K21	SF	Surface	20	2000lm	40	IP 43	OP	Opal	WB3	3000 WB	N	ON/OFF	R	Bright	W	White 02
			25	2500lm					WB4	4000 WB	D	DALI	M	Metalized Matt	B	Black 02
													W	White		

16) Kombic 150 Surface Optic



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K21	SF	Surface	20	2000lm	40	IP 43	WF	WFL 50°	9	90	27	2700 K	N	ON/OFF	B	Black	W	White 02
			30	3000lm							30	3000 K	D	DALI	M	Metalized Matt	B	Black 02
											40	4000 K			W	White		
									8	80	30	3000 K						
											40	4000 K						
			35	3500lm	40	IP 43	WF	WFL 50°	8	80	30	3000 K						
											40	4000 K						

17) Kombic 150 Surface Optic TW



Family	Installation		Lm LED		IP		Optics		IRC		K		Switch		Reflective Finishes		Exterior Finishes	
K21	SF	Surface	30	3000lm	40	IP 43	WF	WFL 50°	9	90	TW	Tunable White	D	DALI	R	Bright	W	White 02
															M	Metalized Matt	B	Black 02
															W	White		

18) Kombic 150 Surface Optic Wellbeing



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K21	SF	Surface	20	2000lm	40	IP 43	WF	WFL 50°	WB3	3000 WB	N	ON/OFF	B	Black	W	White 02
			25	2500lm					WB4	4000 WB	D	DALI	M	Metalized Matt	B	Black 02
													W	White		

19) Kombic 200 Surface



Family	Installation		Lm LED		IP		Optics		K		Switch		Reflective Finishes		Exterior Finishes	
K31	SF	Surface	30	3000lm	20	IP 20	OP	Opal	30	3000 K	N	ON/OFF	R	Bright	W	White 02
			40	4000lm					40	4000 K					B	Black 02

UN CPC Code: 4653 Lighting equipment.

Product description: Kombic is a large family of recessed and surface mounted downlights for general indoor lighting applications. It consists of three ranges according to its size and luminous flux: Kombic 100, 150, and 200.







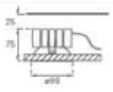
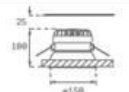
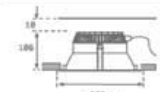







The recessed models extend their range with round and square formats. Kombic 100 and 150 have both recessed and surface mounted models with two optical options: opal diffuser for applications where maximum efficiency is required, or wide flood optics for excellent light control and visual comfort, providing a general lighting solution with UGR below 19 and 17 in the Ultra Comfort options. Luminaire classified as "free of photobiological risk" according to the European standard for photobiological safety EN 62471.

Body made in injected polycarbonate which acts as a metallised reflector and external frame in black and white (depending on the model), with injected aluminium heatsink for correct thermal management and IP versions ranging from 40 to 55. Insulation class II.

Use of COB LEDs with a wide range of colour temperatures (warm, neutral) and tunable white (2700-6500 K) with CRI 90.

Can be controlled by means of Casambi, DALI protocol. Special options in 2700 K, LED WELLBEING and MULTIESPECTRAL technology.

In the following image a descriptive summary of all the products studied:

Modelos	DOWNLIGHT 100	DOWNLIGHT 150	DOWNLIGHT 200	SURFACE 100	SURFACE 150	SURFACE 200
						
Dimensiones						
Lm LED	2000 lm - 2500 lm	2000 lm - 3500 lm	3000 lm - 5000 lm	2000 lm - 2500 lm	2000 lm - 3500 lm	3000 lm - 5000 lm
IRC	80 / 90					
Ángulos apertura						
Temp. Color	3000 / 4000 K / TW / WB / MS		3000 / 4000 K	3000 / 4000 K / TW / WB		3000 / 4000 K
Equipo	ON/OFF - DALI					
Potencia	12 - 18 W	12 - 25 W	17 - 36 W	12 - 18 W	12 - 25 W	17 - 36 W
Acabados	● Negro 02 ○ Blanco 02					
Acabados Acc.	● Negro ○ Blanco		● Metalizado Mate	● Brillo		

At the composition level, the construction of the recessed structures is similar, mainly consisting of an aluminum body that contains a diffuser, a LED module, a LED Driver (switch), electrical cables and fixing elements. The Kombic150 and Kombic200 are like the Kombic100 on a larger scale and with greater power.

The construction of the surface models is the recessed model inside an aluminum tube (K100 and K150) and a piece of PC in the case of K200.

The sensitivity analysis of the differential components of each reference has shown that the difference in potential environmental impact of the different types of installation, diffuser color and type of switch (Driver) does not affect more than 10% of the total impact potential of the lighting unit, therefore the results grouping according to UNE-EN 15804:2012+A2:2019 is allowed.

Finally, the technical characteristics of the luminaires are presented with one representative for surface installation and another for recessed installation:

1. Surface installation: Reference **K11SF2040OP830NMW**

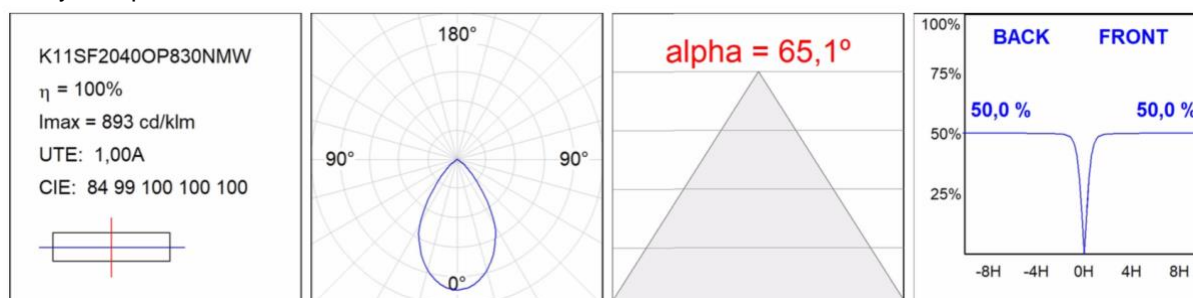
Lamp's downlight for mounting or suspending model KOMBIC 100 SF 2000 IP43 WW OP BR/BK. Body made of black extruded aluminum with gloss polycarbonate reflector and sheet optics. Injected aluminum heatsink. Model for COB LED, with warm white color temperature and switch gear included. Protection degree IP43. Insulation class I.

The technical characteristics of this model are indicated in the following table:

Output flow	1 392 lm	Pled	12 W
Plum	13,4 W	K	3000
Effectiveness	103,9 lm/w	IRC	80
UGR	18	MacAdam	3
Light source	COB PHILIPS	Supply	220-240V 50/60Hz
LED life in hours	50 000 L80 B10	Switch	Electronic



Lastly, the photometric data is:



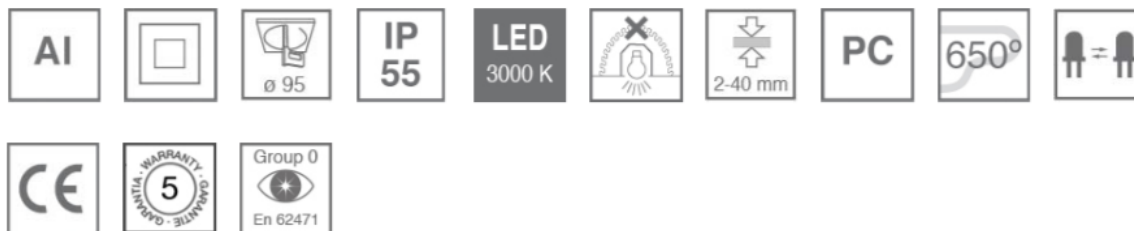
2. Resessed installation: Reference **K11RD2055OP830NMW**

Lamp's recessed round structure model KOMBIC 100 RD 2000 IP55 WW OPAL MA/WH. Polycarbonate reflector. Matte metallic interior reflector and frame in white finish and optics sheet with heatsink of injected aluminium. Model for COB LED with warm white color temperature and switch gear included. Protection degree IP55. Insulation class II.

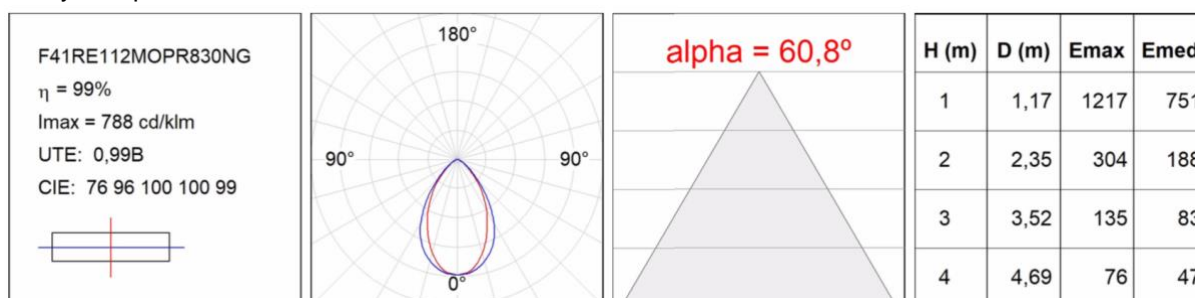
The technical characteristics of this model are indicated in the following table:

Output flow	1 392 lm	Pled	12 W
Plum	13,4 W	K	3000
Effectiveness	103,9 lm/w	IRC	80

UGR	18	MacAdam	3
Light source	COB PHILIPS	Alimentacion	220-240V 50/60Hz
LED life in hours	50 000 L80 B10	Switch	Electronico



Lastly, the photometric data is:



LCA information

Declared unit: The declared unit is that quantification of a function offered by the object of study according to which all the inputs (resources and necessary energy) and outputs (emissions and waste) of the studied system will be referred.

In this case, the manufacture, distribution, installation, use and end of life of **one thousand lumens (1.000 lm) of the general interior luminaire unit KOMBIC** has been selected as the Declared Unit, including the fixation components.

The conversion factors to this declared unit for each KOMBIC model studied are available in the [Annex](#).

Reference service life: is considered to be 5 years, based on the quality guarantee offered to clients.

It should be noted that the useful life of LED can be up to 50.000 hours. In normal operational regime of 8 hours per day for 250 working days per year, the product lasts up to 25 years.

Temporal and geographical representativeness: The primary data used has been obtained from the production center of LAMP for the year 2020, being representative of the products and the production process.

This document will be used for B2B communication, with a global scope.

Data quality: Primary data has been used regarding quantities of material (both electronic components and diffusion elements) and energy consumed during the product's life cycle. These data have been supplied by LAMP, referring to the year 2020, and come from direct factory data.

Secondary data was obtained from the Ecoinvent 3.6 database of recognized international prestige.

The data treatment and processing have been carried out according to the international standards ISO 14025, ISOs 14040 and 14044 for the preparation of life cycle analysis and inventories, selecting the characterization factors established in the UNE 15804: 2012+ A2: 2019.

The geographic scope of the EPD is global.

Database(s) and LCA software used: The Simapro 9.2 calculation software and the Ecoinvent 3.6 database were used for the development of this study.

Description of system boundaries: The presented EPD® is structured by the life cycle stages established according to the PCR 2019: 14 reference standards for construction products, basing on UNE 15804 standard. This EPD® is from cradle to grave with module D (A + B + C) + D.

The life cycle stages analyzed are described below:

A1-A3 Product stage

The product stage is made up of the stages of supply of materials (A1), transport of materials (A2) and manufacturing (A3). As permitted by the UNE-EN 15804:2012+A2:2019 regulation, the results of stages A1-A3 have been grouped into a single product stage (A1-A3).

A1- Material supply

This module takes into account the acquisition of prefabricated components that make up the product. The generation of energy consumed in module A3 during the manufacture of the product is also assigned to this module.

A2- Material transport

This module includes the transport of different materials and components from the manufacturer to the factory where the final product is assembled (Terrassa, Barcelona). The distance and type of truck and specific ship for each raw material have been introduced.

A3- Manufacture

This module includes the consumption of energy and packaging materials used during the manufacturing process of Kombic product. At the same time, factory emissions not originating from fossil fuels combustion of are analyzed, as well as the transport and management of waste originated from the plant (as well as production losses, managed externally to the production center).

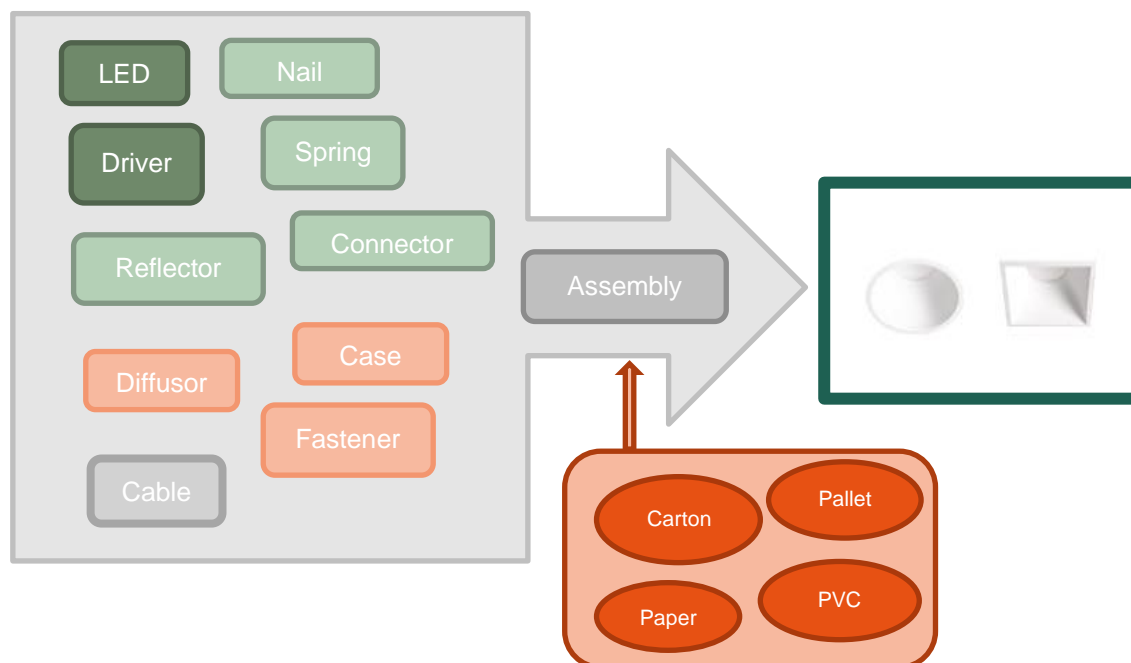
As for the KOMBIC family, Lamp only carries out the assembly of prefabricated components, therefore there are no losses or production waste.

It has been considered that the electrical energy consumed in the production plant is of certified 100% renewable origin.

The primary data used has been obtained from the production plant itself and is representative of the production of Kombic products for the year 2020.

The production process is described below in the following figure:

Figura 1. Production process



A4-A5 Installation stage

The Construction Stage is made up of modules A4 Transportation and A5 Construction – Installation Process.

The **A4 Transport** module includes the transportation of finished and packaged products from the factory gate to the construction site for their subsequent installation. In the national distribution, transport by van has been considered. In global distribution, there are two means of transport: truck and plane.

A weighted average of the mileage associated with Kombic products has been considered based on its sales during the year 2020. For transport by plane, the distance by truck from the production center to the departure airport, the transport by plane itself, and a truck transport from the arrival airport to a final distribution point have been taken into account.

PARAMETER	DESCRIPTION
Type and fuel consumption of the vehicle, type of vehicles used for the transport; for example, trucks for long distance, boat, etc.	<ul style="list-style-type: none"> Domestic: "Transport truck 3,5 – 7 t EURO6" Europa: "Transport lorry 16-32 t EURO6". Diesel consumption: 0,0165 kg/tkm "Cargo plane, no specifications". Heavy fuel oil consumption: 0.00102 kg/ tkm
Distance	<ul style="list-style-type: none"> Km by truck: 600 km Km by lorry: 1500 km Km by plane: 4000 km
Capacity utilization (including empty return trip)	% assumed by Ecoinvent
Apparent density	0,347 kg/m3
Useful capacity factor	1

Module **A5 Installation Process** includes all materials and energy used to prepare the product for use. At the same time, the transport and management of packaging waste and its transport to a local waste manager is taken into account.

At this stage, 0% losses are considered. Packaging waste is only considered in two treatment scenarios: recycling, with the most up-to-date *packaging waste recycling rate* from Eurostats (2019), and the rest is sent to a controlled landfill within a radius of 50 km.

PARAMETER	DESCRIPTION	VALUE PER DECLARED UNIT
Auxiliary materials	kg	0
Water use	M3	0
Use of other resources	Not applicable	0
Quantitative description of the type and consumption of energy during the preparation and installation process.	Electricity – Drilling	330 Wh in 5 minutos
Direct emissions to soil, water or air	kg	0
Waste materials on site, before waste processing, generated by the installation of the product; specified by type	Installation losses	0%
	Packaging	0,116 kg
Output materials (specified by type) as a result of waste processing on site, eg. Eg collection for recycling, energy recovery, disposal; specified by path	Recycling ¹	<ul style="list-style-type: none"> • Paper and cardboard: 82,3% • Mixed packaging plastics: 41% • Wooden pallet: 31,1%
	Landfill	<ul style="list-style-type: none"> • Paper and cardboard: 17,7% • Mixed packaging plastics: 59% • Wooden pallet: 68,9%

B1-B7 Use stage

This stage is comprised of:

B1-Use

It includes the environmental aspects and impacts in the normal use of the product, not including the consumption of water and energy. The impact of the product at this stage is null.

B2-Maintenance

No maintenance of any kind is required during the product's 5-year useful life.

B3-Reparation

No reparation is considered.

B4-Replacement

No substitution is considered.

B5-Rehabilitation

No rehabilitaion is considered.

¹ Packaging recycling rate referring to 2019. Source: Eurostats.

B6-Operational energy use

In the guaranteed useful life of 5 years, the total electricity consumption has been estimated for a power of 17 W, 8 hours a day and 250 days a year. Stage B6 Operational energy use therefore has a value of 170 kWh.

B7-Operational water use

No water consumption is required during the product's 5-year useful life.

C1-C4 End of life stage

The product is required to be professionally collected and recycled in accordance with the EU Directive 2012/19/EU on Waste from Electrical and Electronic Equipment (WEEE). The company fulfills its responsibility within the EU through participation in national WEEE schemes.

C1-Dismantling

In this stage, the common scenario of manual dismantling for 100% of the product is considered, in which it is necessary to unscrew with electricity from the national electrical mix.

The use of auxiliary materials is not necessary.

C2-Transport to waste manager

In this stage, a transport to the local manager within a radius of 100 km has been considered.

C3-Waste treatment

At this stage, the most up-to-date Eurostats *recycling and reuse rate* (89,2% in 2017) from *lighting equipment* waste category is used².

C4-Final disposal

The rest of the product that has not entered the treatment system is sent to the landfill.

² The indicator is calculated by multiplying the "collection rate" by the "reuse and recycling rate" established in the WEEE Directive; where:

- The 'collection rate' is equal to the collected volumes of WEEE in the reference year divided by the average quantity of electrical and electronic equipment (EEE) placed on the market in the previous three years (both expressed in units of mass).
- The 'reuse and recycling rate' is calculated by dividing the weight of WEEE entering the recycling/preparation for reuse facility by the weight of all WEEE collected separately (both in units of mass) in accordance with Article 11 (2) of the WEEE Directive 2012/19/EU, considering that the total amount of WEEE collected is sent to treatment / recycling facilities.

The indicator is expressed as a percentage (%) since both terms are measured in the same unit.

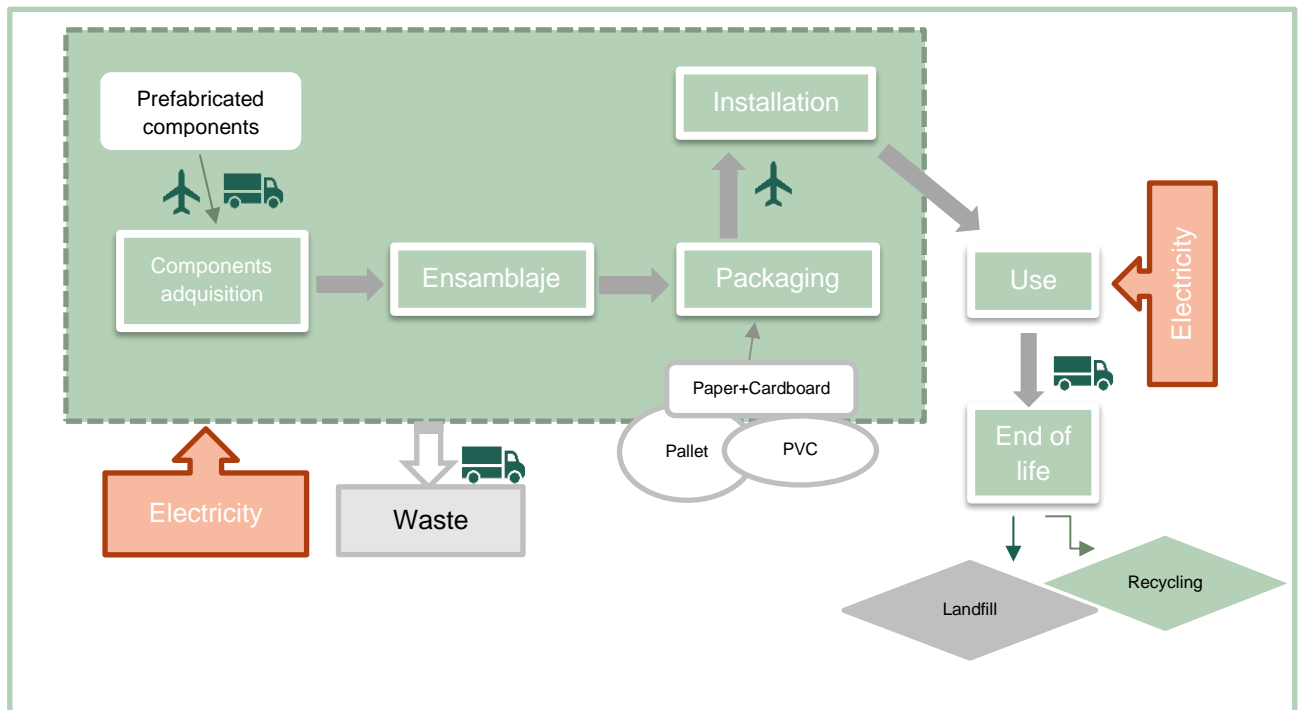
The following table summarizes the information necessary for the end-of-life stage:

Module	Parameter	Unit (per declared unit)	Value
C1 Dismantling	Collection process specified by type	Kg collected manually and separately	0,291 kg
		Kg collected mixed with construction waste	0
C2 Transport	Vehicle type and fuel consumption, type of vehicles used for transportation	Transport truck 16t EURO6	Diesel consumption: 0,0165 kg/tkm
	Distance	km	100
	Capacity utilization (including empty return)	%	100% volumn (round trip)
	Useful capacity factor		1
C3 Treatment of waste	System recovery specified by type	Kg for reuse	0
		kg for recycling	Total 0,266 kg, comprises of: <ul style="list-style-type: none"> Aluminium: 0,138 kg Steel: 0,011 kg Plastic components: 0,055 kg Electronic components, including cables: 0,056 kg
		Kg for energy recovery	0
C4 Disposal	Disposal specified by type	Kg of product for final disposal	Total 0,031 kg, comprises of: <ul style="list-style-type: none"> Aluminium: 0,017 kg Steel: 0,001 kg Plastic components: 0,007 kg Electronic components, including cables: 0,007 kg

D Reuse, recovery and recycling potential stage

This product claims the environmental benefits due to recycling and reuse according to Directive 2012/19/ EU of WEEE.

System diagram:



More information in: <https://www.lamp.es/>

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Product Stage			Constructi on stage		Use stage							End-of-life stage				Benefit s
	Raw materials	Transport	Manufacturing	Transport	Installation/construction	Use	Maintenance	Reparation	Replacement	Rehabilitation	Energy use	Water use	Deconstruction-demolition	Transport	Waste treatment	Waste elimination	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Declared module	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO	GLO	ES	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO
Specific data	>90% GWP-GHG			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Product variation	The variation of declared impacts is less than 10% for each product group					-	-	-	-	-	-	-	-	-	-	-	-
Site variation	-	-	One production plant	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Información adicional

- Technical support for the implementation of the EPD: OIKO.
- Allocation processes: Wherever possible, allocation has been avoided, but for energy consumption, waste production and distribution an allocation had to be made based on physical mass considerations.
- Cut-off rules and considerations:
 - The principle of modularity has been followed, as well as the polluter-payer principle.
 - All available data on the consumption of matter and energy have been taken into account, consequently, contributors of less than 1% of mass or energy have been considered to some extent.
 - The following processes have been excluded:
 - Manufacture of equipment used in production, in buildings or any other capital good
 - Transportation of personnel to the plant
 - Transportation of personnel within the plant
 - Research and development activities
 - Long-term emissions
- Calculation methodologies: to obtain the results in accordance with the provisions of UNE 15804 + A2, the "EF method", "EDIP" and "CED" methodologies have been used for environmental impacts, waste generation and energy consumption, respectively.
- The scenarios included are currently in use and are representative of one of the most likely alternatives for the product under review.

Content information

The composition range of the Fil 45 product is shown below:

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Aluminium	53,1%	-	-
Steel	4,3%	-	-
Electronic components	21,5%	-	-
Plastic components	21,0%	-	-
Thermal paste	0,2%	-	-
TOTAL	100%	-	-
Packaging materials	Weight, kg	Weight-% (versus the product)	Post-consumer material, weight-%
Paper	0,006	2,0%	100%
Carton box	0,073	25,2%	-
PVC adhesive	0,001	0,2%	-
Wooden pallet	0,036	12,3%	10%
TOTAL	0,116		

The product does not include in its life cycle any dangerous substances included in the "Very High Impact Candidate List for Authorization (SVHC)" in a percentage greater than 0.1% of the weight of the product.

Environmental information

These results are valid for the declared unit of 1.000 lm (one thousand lumens) of the general interior luminaire KOMBIC unit, utilizing as reference the average for the entire family as representative as the variation between the different models is +/- 10%

Estimated impact results are only relative statements that do not indicate impact category endpoints, exceeding threshold values, safety margins, or risks.

Results per declared unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	3,93E+00	2,55E-01	1,38E-02	0	0	0	0	0	5,42E+01	0	8,76E-03	1,21E-02	6,41E-02	7,93E-05	-2,41E-01
GWP-fossil	kg CO ₂ eq.	3,89E+00	2,55E-01	1,15E-02	0	0	0	0	0	5,38E+01	0	8,70E-03	1,21E-02	6,18E-02	7,93E-05	-2,35E-01
GWP-biogenic	kg CO ₂ eq.	2,75E-02	1,49E-05	2,26E-03	0	0	0	0	0	1,27E-01	0	2,06E-05	8,02E-07	2,26E-03	1,09E-08	-1,12E-03
GWP-luluc	kg CO ₂ eq.	1,42E-02	2,08E-06	3,65E-05	0	0	0	0	0	2,26E-01	0	3,65E-05	1,49E-07	3,36E-06	1,94E-09	-4,59E-03
ODP	kg CFC 11 eq.	2,37E-07	5,86E-08	1,42E-09	0	0	0	0	0	5,34E-06	0	8,64E-10	2,71E-09	1,02E-09	1,66E-11	-2,58E-08
AP	mol H ⁺ eq.	2,96E-02	1,01E-03	7,71E-05	0	0	0	0	0	3,37E-01	0	5,45E-05	2,44E-05	5,37E-05	8,19E-07	-1,51E-03
EP-freshwater	kg PO ₄ ³⁻ eq.	2,67E-03	1,31E-04	1,18E-05	0	0	0	0	0	2,64E-02	0	4,27E-06	2,37E-06	1,35E-05	1,26E-07	-1,05E-04
EP-freshwater	kg P eq.	3,68E-04	1,42E-07	5,05E-07	0	0	0	0	0	2,74E-03	0	4,43E-07	2,83E-08	1,69E-07	2,90E-10	-1,20E-05
EP-marine	kg N eq.	3,93E-03	3,34E-04	1,75E-05	0	0	0	0	0	4,83E-02	0	7,81E-06	3,87E-06	2,19E-05	3,55E-07	-1,81E-04
EP-terrestrial	mol N eq.	4,44E-02	3,67E-03	1,95E-04	0	0	0	0	0	5,45E-01	0	8,81E-05	4,40E-05	2,34E-04	3,90E-06	-2,01E-03
POCP	kg NMVOC eq.	1,22E-02	9,73E-04	7,48E-05	0	0	0	0	0	1,48E-01	0	2,40E-05	1,52E-05	8,31E-05	1,09E-06	-7,34E-04
ADP-minerals&metals*	kg Sb eq.	1,19E-04	1,58E-08	4,76E-09	0	0	0	0	0	2,84E-05	0	4,59E-09	3,66E-09	3,18E-08	3,29E-11	-1,99E-06
ADP-fossil*	MJ	4,18E+01	3,57E+00	1,37E-01	0	0	0	0	0	6,37E+02	0	1,03E-01	1,69E-01	7,48E-02	1,06E-03	-2,45E+00
WDP	m ³	6,37E+00	-5,37E-05	3,06E-03	0	0	0	0	0	1,89E+01	0	3,06E-03	5,59E-05	7,92E-03	3,63E-07	-1,74E-02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Potential environmental impact: additional mandatory indicators

Results per declared unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ^[1]	kg CO ₂ eq.	3,80E+00	2,54E-01	1,32E-02	0	0	0	0	0	5,32E+01	0	8,61E-03	1,21E-02	6,34E-02	7,78E-05	-2,32E-01

^[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Use of resources

Results per declared unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1,06E+01	4,44E-03	2,64E-02	0	0	0	0	0	1,63E+02	0	2,64E-02	2,05E-04	2,94E-03	4,00E-06	-1,32E+00
PERM	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	1,06E+01	4,44E-03	2,64E-02	0	0	0	0	0	1,63E+02	0	2,64E-02	2,05E-04	2,94E-03	4,00E-06	-1,32E+00
PENRE	MJ	5,31E+01	3,80E+00	2,10E-01	0	0	0	0	0	1,07E+03	0	1,74E-01	1,79E-01	8,43E-02	1,12E-03	-3,59E+00
PENRM	MJ.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	5,31E+01	3,80E+00	2,10E-01	0	0	0	0	0	1,07E+03	0	1,74E-01	1,79E-01	8,43E-02	1,12E-03	-3,59E+00
SM	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FW	m ³	6,37E+00	-5,37E-05	3,06E-03	0	0	0	0	0	1,89E+01	0	3,06E-03	5,59E-05	7,92E-03	3,63E-07	-1,74E-02
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

Waste production and output flows

Waste production

Results per declared unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3,41E-04	9,40E-06	1,43E-07	0	0	0	0	0	3,29E-04	0	5,33E-08	4,56E-07	1,64E-07	2,66E-09	-2,73E-06
Non-hazardous waste disposed	kg	3,46E-01	1,47E-04	2,64E-02	0	0	0	0	0	1,43E+00	0	2,31E-04	4,35E-05	5,11E-02	3,14E-02	-1,06E-01
Radioactive waste disposed	kg	1,48E-04	2,59E-05	1,27E-06	0	0	0	0	0	6,35E-03	0	1,03E-06	1,20E-06	4,30E-07	7,34E-09	-1,95E-05

Output flows

Results per declared unit																
Indicator	Unit	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0	0	0	0	0	0	0	0	0	0	2,06E-01	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Información sobre el contenido de carbono biogénico

Results per declared unit		
BIOGENIC CARBON CONTENT		Unit
Biogenic carbon content in product		kg C
Biogenic carbon content in packaging		kg C

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.

Interpretation of Environmental performance results

As can be seen in figure 4, during the life cycle of a modular technical lighting system, most of the impacts occur in the use stage. Specifically, B6-Operational energy use is responsible for more than 90% of the total impact in almost all indicators, with the exception of 19% in *Potential for Abiotic Depletion of non-fossil resources*.

The A1 stage of acquisition of materials is the second contributor. In fact, during this stage is when occur 7% of the impacts associated with *global warming*, 82% of the impacts associated with the *Abiotic Depletion of non-renewable resources*, between 7% and 12% of the impacts associated with the *eutrophication potential* and 25 % of impacts associated with *water consumption*.

Stage A4-Transportation to the customer also has a significant impact, since sale takes place in many parts of the world that require transportation by ship and airplane.

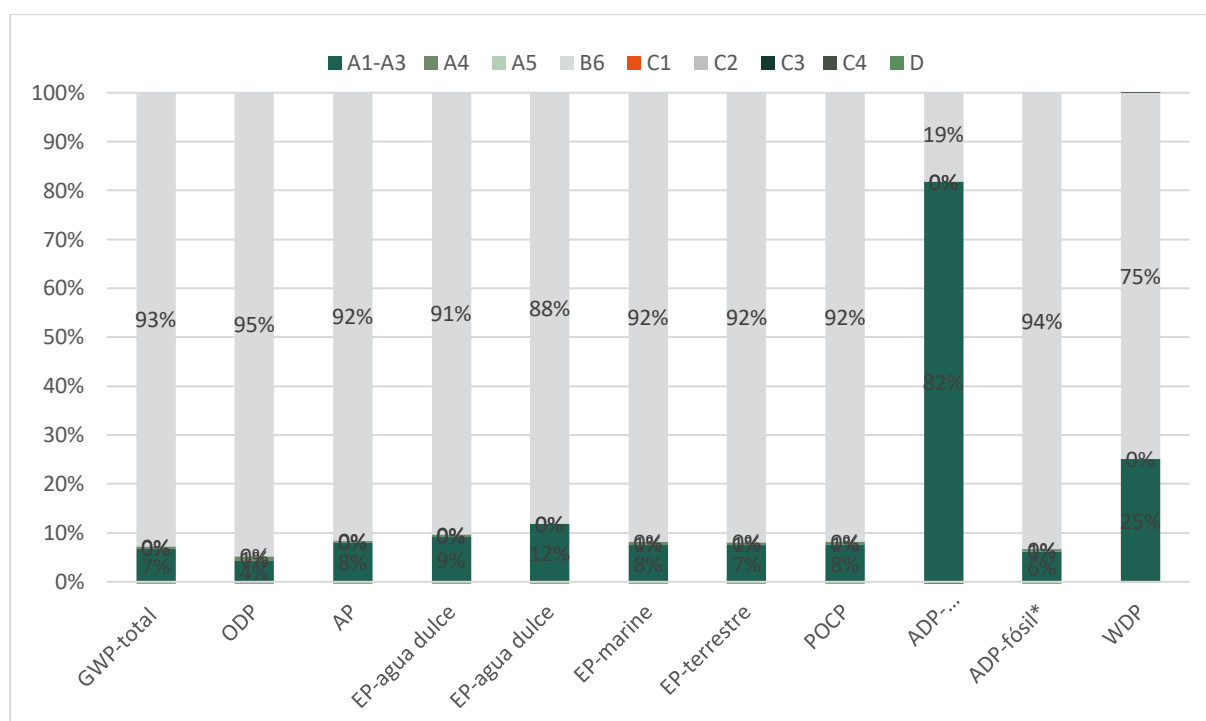


Figura 2. Contribution of life cycle stages to the product's life cycle total impact

Information related to Sector EPD

The present EPD® is individual.

References

- General Programme Instructions of the International EPD® System. Version 3.01
- ISO 14020: 2000 Environmental labels and declarations — General principles
- ISO 14025: 2010 Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- ISO 14040: 2006 Environmental management — Life cycle assessment — Principles and framework
- ISO 14044: 2006 Environmental management — Life cycle assessment — Requirements and guidelines
- PCR 2019:14 Construction products (EN 15804:A2) version 1.11
- EN 15804: 2012 + A2: 2019 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- Marcel Gómez Consultoría Ambiental (2022). Memoria del Análisis del Ciclo de Vida KOMBIC. Barcelona.

Annex. Conversion factors

The conversion factors shown in this table can be used to convert the values of environmental performance results of the average product in the [Environmental information](#) section for the declared unit of one thousand lumens of light of Kombic luminaire to their corresponding models with different luminous power by multiplying them with these factors in bold. In this way, the understanding of the potential impacts of the product is facilitated, promoting the principles of quality and transparency

KOMBIC Model	Downlight 100			Downlight 150			Downlight 200			Surface 100			Surface 150			Surface 200		
Lm LED (Min-Med-Max)	20 00	22 50	25 00	20 00	27 50	35 00	30 00	40 00	50 00	20 00	22 50	25 00	20 00	27 50	35 00	30 00	40 00	50 00
Conversion fatcor	2	2, 25	2, 5	2	2, 75	3, 5	3	4	5	2	2, 25	2, 5	2	2, 75	3, 5	3	4	5

