# louis poulsen

Environmental Product Specifications

— Munkegaard

Product description

- The circular product is a wide family of variants.

- Iconic design.

- Four dimensions.

- High quality finish glass front.

- Two-layer construction diffuser construction consisting of highly efficient acrylic diffuser and clear toughened glass. Glass and acrylic diffuser can if necessary be separated for cleaning.

- Toughened glass to ensure safety. Chrome plated, or satin chrome plated brass trim ring.

- Simple installation with bayonet spring steel type latches.
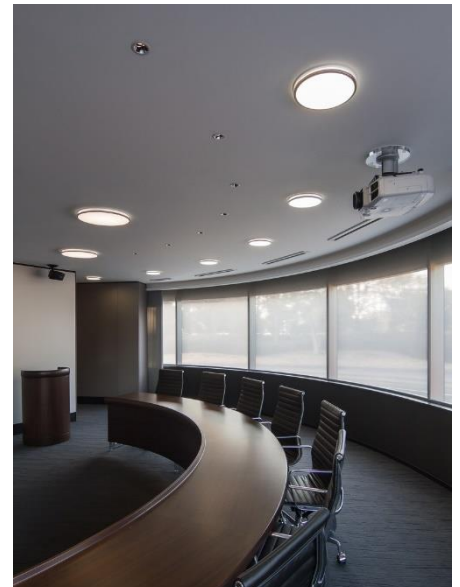
Product info

Mounting

Depends on the variant.

Finish

High lustre chrome plated or satin chrome plated.
Matt-white acrylic/toughened clear glass.

Light source

LED 3000K 15W. Lumen: 974.

Sizes and weights

Width x Height x Length (mm)
265 x 30 x 265 Max 2.0 kg
460 x 30 x 460 Max 3.6 kg
525 x 30 x 525 Max 4.5 kg

Class

Ingress protection IP20. Electric shock protection I
w. ground.

Product family

Munkegaard Mini

Product variants

Dimension	Colour		Light source	Lumen	Lighting control
Ø 265	●	Brass	LED 3000K 15W	2271	Dali
Ø 460	●	High lustre chrome plated	LED 3000K 30W	3312	Dali/switch-dim
Ø 525	○	Satin chrome plated	LED 3000K 42W	974	

Material information

RoHS

This product is compliant with the requirements contained in the European Directives, RoHS Directive 2011/65 and 2015/863.

REACH candidate List

To the best of our knowledge and based on the information provided by our suppliers, the product does not contain more than 0.1 percent (in weight terms) of any deliberately added SVHCs.

Packaging

The product is packaged in a plastic bag with a cardboard. The packaging material can be easily sorted and treated in waste recycling channels. The packaged product is delivered on a returnable wooden pallet.

Recycled raw material

The aluminium material is sourced from min. 90% authentic, refined, recycled aluminium.

Cardboard is made from min. 65% recycled fiber mass. Additional cardboard material comes from an FSC approved sources.

Recycling

We encourage everyone to take care of the product - even at the end of the product's lifetime. We also offer spare parts, so that we can extend the product lifetime even further.

The luminaires contain valuable materials. They therefore have to be decommissioned and dismantled for reuse of materials in other products.

This product is designed so that 100% of the product can be disassembled and reused.

Louis Poulsen is part of ELRETUR which ensures that electronic waste (WEEE) across of Europa is reused.

This product must be treated as electronic waste:

Material list

Positions number	Part description	Included substances and materials	Country of origin	Weight% (of the entire product)
A	Aluminium parts	Machined aluminium	DK - Denmark	27,2%
A	Painting	Powder coating	DE - Germany	2,0%
B	Trim ring	Machined brass	DK - Denmark	5,4%
C	Steel parts	Machined steel	CN - China	3,9%
D	Glass	Glass	CN - China	9,8%
E	Aluminium parts	Machined aluminium	CN - China	4,5%
F	Diffusor	PS	DK - Denmark	3,1%
G	LED board	Variety of components	KR - Korea	2,5%
H	Terminal helag	Variety of components	SE - Sweden	4,3%
I	Plastic parts	PA	CN - China	0,1%
J	Driver	Variety of components	FI - Finland	4,3%
K	Screws	Stainless steel	CN - China	2,6%
L	Membrane grommet	PVC	DE - Germany	0,1%
M	Electrical wiring	Variety of components	IT - Italy	1,6%
N	Plastic washer	PBT	DK - Denmark	0,1%
O	Labels and instructions	Paper	DK - Denmark	0,4%
P	Packaging	Corrugated cardboard	DK - Denmark	20,6%
Q	Inserts	Corrugated cardboard	DK - Denmark	7,1%
R	Plastic bags	LDPE	LT - Lithuania	0,6%
				100%

Life Cycle Screening

Background

Our carbon footprint is the total quantity of greenhouse gas (GHG) emissions associated with the full lifecycle of the product. This includes the impacts associated with raw materials and emissions from manufacturing (materials and resources), transport, in use (cleaning) impacts and impacts at end of life (reuse, recycling, incineration, landfill etc.).

Basis of calculation

This is calculated according to the EU Product Environmental Footprint and presented according to ISO 14067 (Carbon footprint of products).

EU Product Environmental Footprint (PEF)

The PEF methodology is a new standard, introduced by the European Commission.
The mission: to strengthen the (European) market for green alternatives and ensure that environmental impact is transparently assessed.

Use stage

The product use stage is calculated for a lifetime of 15 years with 1,000 hours of use each year in Europa, as required by the reference in PEF.

The electricity is based on the European energy mix, with data from: the European Environment Agency Greenhouse gas emission intensity of electricity generation.

Transport

1.200 km national or 3.500 km for export transport is calculated for the product from factory to end customer as required by the reference in PEF.

Uncertainties associated with these calculations

Calculation of emission levels is associated with uncertainty. This means that results may vary from actual levels. By using the PEF method, uncertainties are embedded in the Life Cycle Screening result using statistical methods.

Life Cycle Screening results

Product that has been calculated as a reference for the product family:

MUNKEGAARD, Ø265, HIGH GLOSS CHROME PLATED, LED 3000K 15W.

Production of the product

Average climate emission:

10 KG CO2-e

Lower boundary:	7 CO2-e
Upper boundary:	80 CO2-e

Production of the product and use stage

Average climate emission:

140 KG CO2-e

Lower boundary:	140 CO2-e
Upper boundary:	210 CO2-e

Carbon stages

- Use phase
- Transport
- Packaging
- Production
- Production waste
- Surface treatment
- Materials
- Disposal
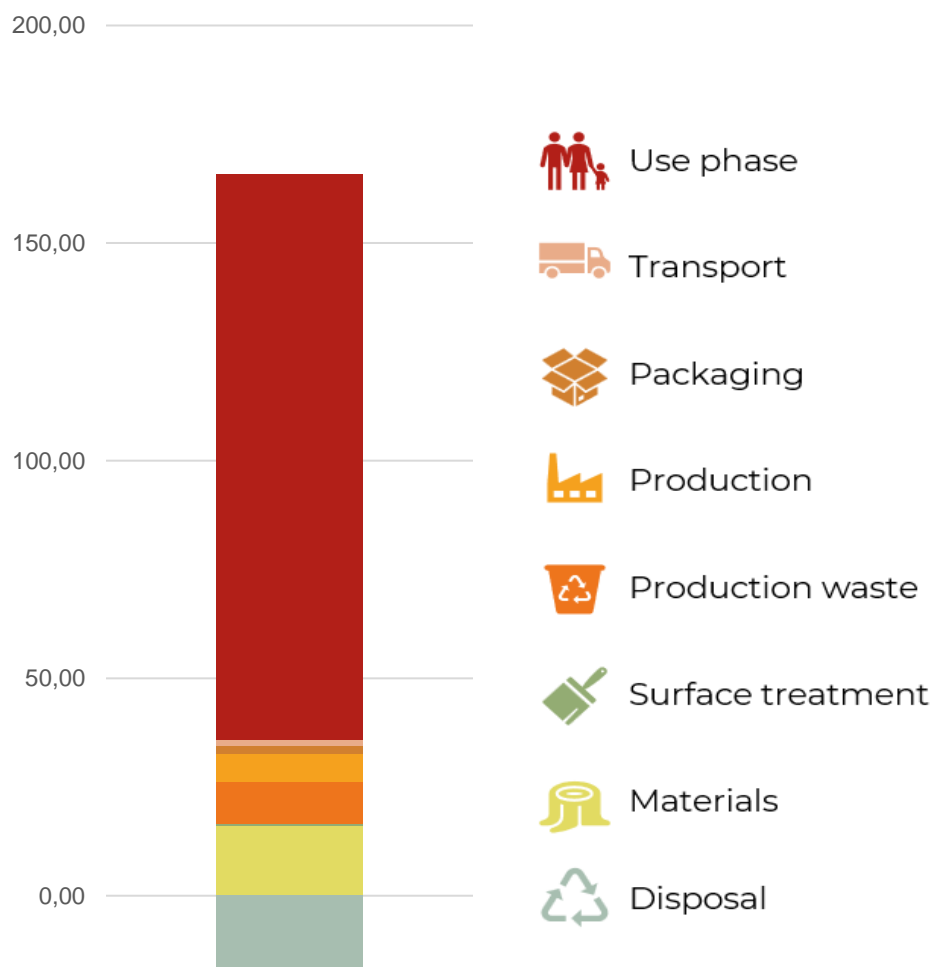
The carbon footprint has been calculated using Målbar version 2.9612; in accordance with the Product Environmental Footprint.
The carbon footprint has not been third-party verified. Only to be used for B2B, as comparing alternative results.
Comparing data across methodologies is likely to result in inaccurate representations.

Main emission sources *(pr material group)**

Group	Total impact		
Solid Wood	0,00	kg CO2-e	0,0%
Wood based board	0,00	kg CO2-e	0,0%
Metal	3,25	kg CO2-e	18,8%
Plastic	2,15	kg CO2-e	12,5%
Glass / Stone / Ceramics	0,41	kg CO2-e	2,4%
Surface finish & chemicals	3,08	kg CO2-e	17,9%
Upholstery	0,00	kg CO2-e	0,0%
Cover	0,00	kg CO2-e	0,0%
Electronic components	5,05	kg CO2-e	29,3%
Packaging	1,86	kg CO2-e	10,8%
Transport & logistics	1,43	kg CO2-e	8,3%
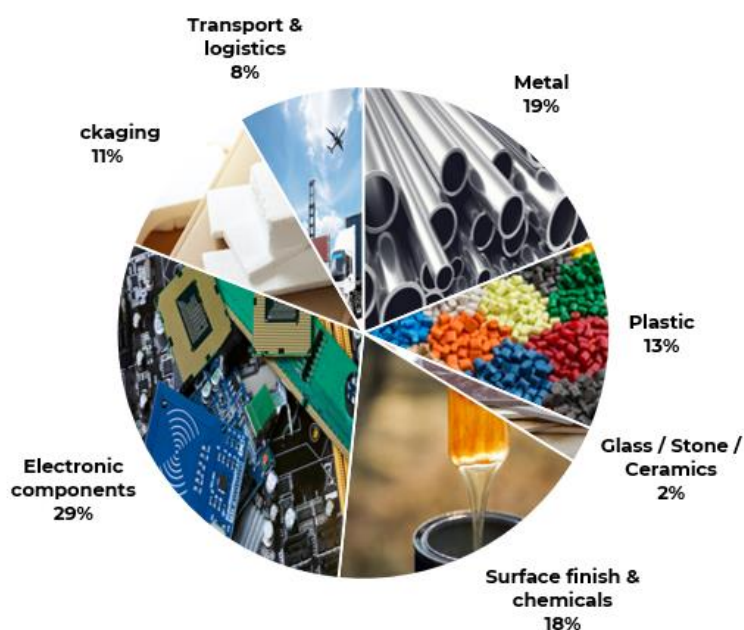
The values presented here represent total emissions per material group (incl. material, production, transport, waste, CO2e uptake)

Main emission sources *(pr element)**

Element	Material	Total impact	
PAINTING	Or kg powder consumed	3,08	kg CO2-e
ALUMINIUM PARTS	Alu. machined	2,66	kg CO2-e
TRIM RING	Brass machined	2,14	kg CO2-e
DRIVER	Power supply with cables + connectors	2,11	kg CO2-e
LED BOARD	1 layer aluminium (1,6mm thicknesss) PCB surface mount	1,98	kg CO2-e
TERMINAL HELAG	Polyamide (PA6)	1,53	kg CO2-e
Transport	Total emission from transport - all steps	1,38	kg CO2-e
PACKAGING	Corrugated cardboard box printed sustainable fiber	1,29	kg CO2-e
STEEL PARTS	Steel machined	0,72	kg CO2-e
LED'S ON BOARD	LED 3,5x3,5x2,0mm (59mg)	0,65	kg CO2-e
SCREWS	Stainless steel screws/bolts	0,63	kg CO2-e
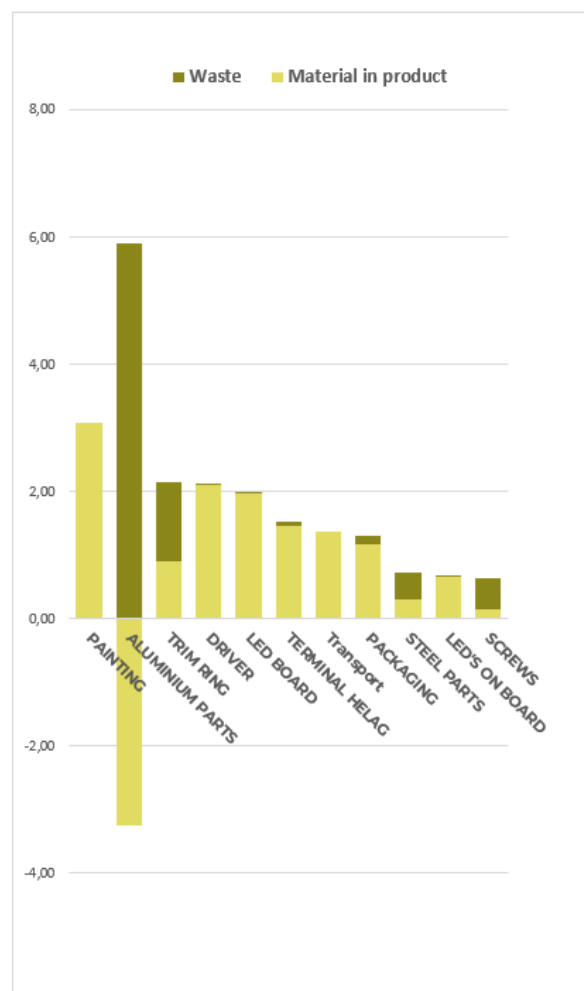
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