





Task luminaires enable specific illumination of the workplace and individual operation by the user. They provide direct light for reading, writing, or operating the computer.

As an additional, individually adjustable lighting component, task luminaires today fulfill the recognized task of compensating for poor eyesight with higher brightness levels and an individually selectable light incidence direction. They are highly regarded among users.

For task luminaires in professional applications

DIN 5035-8 “Artificial lighting of interiors, Part 8: Task luminaires – Requirements, recommendations and testing”

has outlined all relevant product properties since 2007. The standard focuses on performance capability characteristics. These include:

- Lighting technology characteristics, such as the brightness levels produced on reference surfaces in reference positions and their uniformity
- Product-specific measures for limiting glare
- Mechanical and electrical adjustment options
- The design of operating elements and displays
- Optical properties, such as gloss level and reflection level
- Thermal characteristics, such as the surface temperature on defined areas and heat emission

The conformity of the MINELA task luminaire with the requirements of the standard DIN 5035-8 is documented as follows on the next few pages:

1. Product data
2. Lighting technology data
3. Adjustment options
4. Displays and operating elements
5. Additional performance capability characteristics
6. Maintenance, repair, care, disposal
7. Contact

1. Product data

Luminaire name:	MINELA
Type / model:	ETL 1 F
Item number:	112 883 000
Connected loads:	100-240 V, 50/60 Hz
Equipped with:	1x LED 5W
Operating device:	1x power pack
System power:	Approx. 8 W
Standby power:	Approx. 0.9 W
Connecting line:	Approx. 11 ft, Euro plug
Operation:	Dimmable
Weight:	approx. 0.86 kg
Glare suppression	None
Protection class:	II
Housing:	Aluminum, powder-coated
Rods:	Aluminum, powder-coated
Arm balance	Gas pressure spring
Safety signs:	CE, ENEC

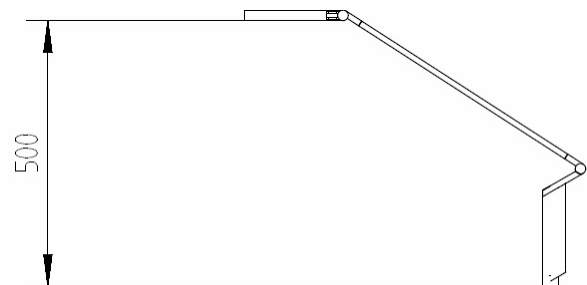
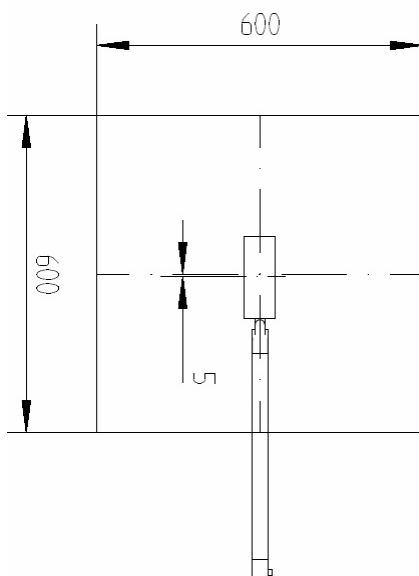


2. Lighting technology data

Reference surface (RF) and reference position

RF3 (L x B) = 600 mm x 600 mm, number of measurement points at least 10 x 10

Luminaire centered over RF, horizontally at a distance of 500 mm over RF (see sketch)

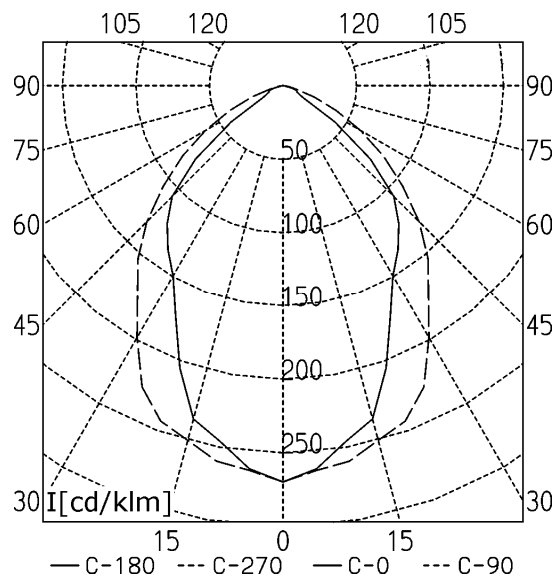
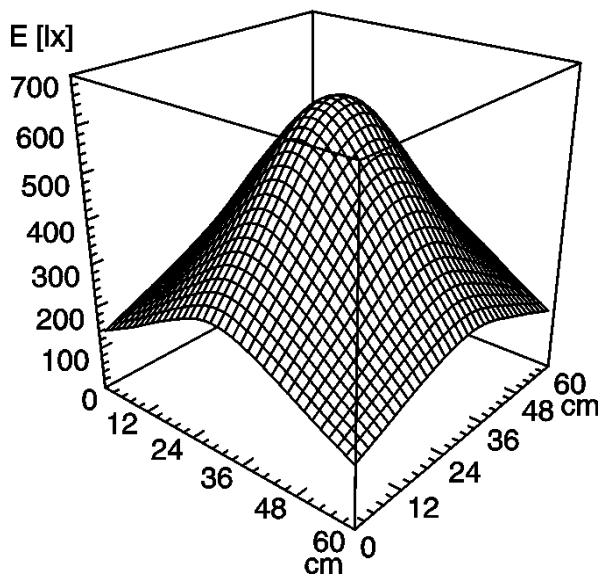


2.1 Brightness levels

The brightness level greatly influences how quickly, how safely, and how easily the eyes can handle a visual task – for example when reading or working on the computer.

The brightness level (abbreviated: E) indicates, in the unit of measure lux (lx), the luminous flux (measured in lumen: lm) that a light source emits onto a defined surface. It is one lux if the luminous flux of one lumen illuminates an area of one square meter.

The brightness level is measured on horizontal and vertical surfaces using a lux meter. For office tasks, for example the standard DIN EN 12464-1 (Lighting of workplaces – Indoor workplaces) specifies an average brightness level of greater than 500 lux in the area of a visual task. If necessary, task luminaires assume the function of supplementing the existing basic illumination (artificial and/or daylight) in order to meet the requirement.



Measurement results for brightness level of MINELA in lux:

Minimum brightness level	Maximum brightness level	Average brightness level
E_{\min} : 154 lx	E_{\max} : 630 lx	E_{mean} : 357 lx

2.2 Uniformity

The uniform distribution of the brightness facilitates the visual task and/or prevents the creation of unpleasant brightness differences and therefore the distraction from the visual task. Uniform means the distribution of the brightness level, i.e. it is e.g. the ratio of the minimum to the maximum brightness level (g_2), or the standard deviation from the average brightness level (g_3).

Uniformity levels for measurement result from MINELA:

g_2	g_3
0.25 (the higher the better, at least 0.20)	0.34 (the smaller the better, no more than 1.0)

2.3 Limitation of glare

Luminance (abbreviated: L) corresponds to the luminous intensity relative to a square measure and thus constitutes the impression of brightness that the viewer perceives from a light source. Glare is caused by areas with excessive luminance. For task luminaires, according to DIN 5035-8, product-specific measures are required for limiting glare.

For luminaires operated above eye level (MINELA), the cut-off angles according to DIN EN 12464-1 must be adhered to. With the MINELA task luminaire, the lamp is barely visible at a cut-off angle of approx. 25°.



Average luminance (relative to nominal luminous flux of 540 lm at 700 mA):

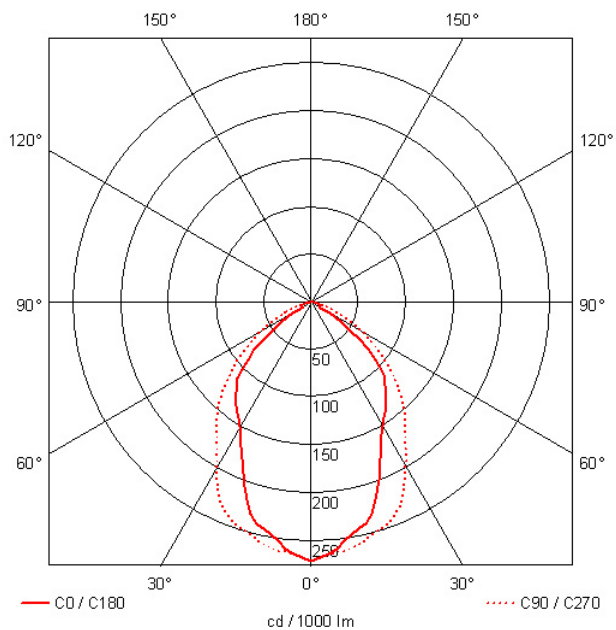
	C0	C15	C30	C45	C60	C75	C90	C105	C120	C135	C150	C165
65°	14223	12609	12866	23888	42442	48907	[53152]	48907	42442	23888	12866	12609
70°	16286	15396	11771	9503	20391	32165	36909	32165	20391	9503	11771	15396
75°	13574	14782	9659	6658	5550	13082	20268	13082	5550	6658	9659	14782
80°	4169	6206	3521	2167	2096	7737	13732	7737	2096	2167	3521	6206
85°	2876	3456	2424	997	1311	4233	8258	4233	1311	997	2424	3456

	C180	C195	C210	C225	C240	C255	C270	C285	C300	C315	C330	C345
65°	14223	12609	12866	23888	42442	48907	[53152]	48907	42442	23888	12866	12609
70°	16286	15396	11771	9503	20391	32165	36909	32165	20391	9503	11771	15396
75°	13574	14782	9659	6658	5550	13082	20268	13082	5550	6658	9659	14782
80°	4169	6206	3521	2167	2096	7737	13732	7737	2096	2167	3521	6206
85°	2876	3456	2424	997	1311	4233	8258	4233	1311	997	2424	3456

Luminance (cd/m²)

2.4 Light distribution

The spatial distribution of the brightness level is illustrated by way of the luminous intensity-distribution curve. The light distribution of the MINELA task luminaire is direct 100%, and the luminaire efficiency is 45%.



3. Adjustment options

The MINELA luminaire is designed for typical office and desk activities in addition to daylight or room lighting. The luminaire is typically operated at head level or below and adjusted in accordance with the individual vision requirements (distance and inclination of the luminaire head). The adjustments can be easily and, with frequent use, quickly performed by the user. A high-quality joint design ensures that adjustments selected by the user are not accidentally changed, even over extended periods.



4. Displays and operating elements

The operating element of the MINELA task luminaire is installed in the luminaire head and therefore always within reach.



NEW IMAGE!!!

The luminaire is equipped with a touch LED sensor for switching it on and off and for dimming.

5. Additional performance capability characteristics

5.1 Noise emission

The MINELA luminaire only produces minimal noise during mechanical adjustment. No noise emission is created by the electrical components.

5.2 Optical surface properties

Powder-coated aluminum and black, matte plastic form the key surfaces of the MINELA task luminaire. The gloss and reflection levels of these surfaces are minimal and do not produce any unpleasant reflections during use.



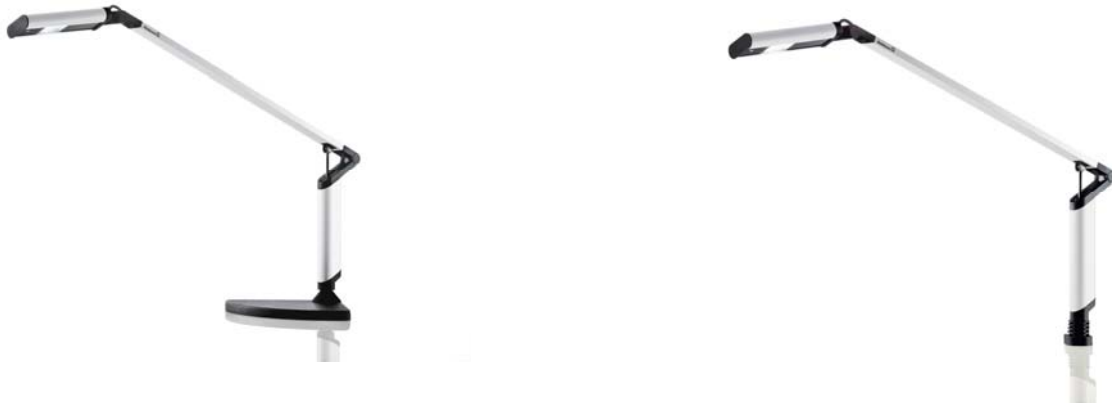
5.3 Mechanical features

When adjusting the luminaire to the individual vision requirements, mechanical components are moved. The minimum distance between the moving parts has been increased so that no risk of pinching or shear for fingers exists.



All edges and material transitions are deburred. There is no risk of cuts during the intended operation.

Different fastening options (table clamp, table base) ensure standard-compliant structural stability (DIN EN 60598-2-4) of the variable MINELA luminaire. The luminaire is normally shipped with the table clamp and can alternatively be operated with a table base.



Due to the desired mobility of the luminaire, it must be protected from tilting or falling of the desk when in use:

- Mount luminaire with the listed accessory (table clamp, table base) on the desk
- Route cable so it cannot be damaged
- Any fastening options different from those proposed by Waldmann must be inspected for effectiveness

5.4 Thermal features

The heat generated by the electronic components during operation is dissipated via the aluminum material. An impairment of the user, especially in the head region, is excluded.

For components with which the user may have specific or accidental contact during intended use, limit values for the surface temperatures must be adhered to. These depend on the materials of the luminaire parts and the duration of contact of the user with the parts. The values listed below refer to the use in the professional field, i.e. by employees with common reaction times and durations of operation.

Relevant standards: DIN EN ISO 13732-1:2004-04 and DIN EN 60598-1.

Maximum surface temperature on contact with the luminaire parts:

a) Surface material “metal luminaire parts“

- Specific contact, e.g. of operating elements; MINELA: ???°C (limit: max. 50°C)
- Accidental contact (not of the light emission surface); MINELA: ???°C (limit: max. 60°C)
- Accidental contact (light emission surface only); MINELA: ???°C (limit: max. 60°C)

a) Surface material “non-metal luminaire parts“

- Specific contact, e.g. of operating elements; MINELA: ???°C (limit: max. 55°C)
- Accidental contact (not of the light emission surface); MINELA: ???°C (limit: max. 75°C)
- Accidental contact (light emission surface only); MINELA: ???°C (limit: max. 75°C)

6. Maintenance, repair, care, disposal

The MINELA luminaire is maintenance-free with the exception of the lamp.

Before performing maintenance and repair work, the luminaire must be disconnected from the mains. The work must only be conducted by a trained electrical technician.

The luminaire uses a light-emitting diode (LED). The service life of LEDs surpasses that of conventional lamps (e.g. incandescent lamps) several times. As a result, the lamps must be rarely replaced. If the LED should still fail, the entire LED module must be replaced. Only Waldmann may replace the LED module.

This principle also applies to damaged mains lines.

A piece of cloth soaked with common household cleaner should be used to clean the luminaire parts.

At the end of the service life, the MINELA task luminaire must be taken to the existing return and collection systems.

All information relating to maintenance, repair, care, and disposal is part of the user instructions. They are enclosed for every new product that is shipped and, if necessary, can also be requested later from Waldmann.

7. Contact

For additional information and to contact us, visit

www.waldmann.com