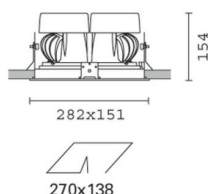


Last information update: May 2024

Product configuration: ML20+LED

ML20: rectangular recessed luminaire with 2 optical assemblies - neutral white active dissipation - integrated electronic control gear - wide flood

**Product code**ML20: rectangular recessed luminaire with 2 optical assemblies - neutral white active dissipation - integrated electronic control gear - wide flood **Attention! Code no longer in production****Technical description**

Multiple recessed adjustable removable luminaire for LED lamp with active heat dissipation system. Sheet steel perimeter frame. Main structure and lamp body made of die-cast aluminium. Steel rotation hinges. Chrome-plated aluminium lamp body closing rings. Forced heat dissipation using fans with magnetic anti-friction operation guaranteeing lasting efficiency and quietness, keeping LED lamps performance unchanged. The fans have an anti-dust protection system; safety thermal breaker and are set up for fast, easy replacement. Reflectors with high efficiency super-pure aluminium optic - wide flood beam angle. Body adjusted using manually operated device: internal 29° - external 75° - rotation about axis 355°. During adjustment and rotation the lamp bodies are subject to some limitations. Consult the instruction sheet. Supplied with electronic control gear units connected to the luminaire. Neutral white high efficiency LED.

Installation

recessed: preparation slot 138 x 270 mm; perimeter frame preliminary fixing on false ceiling (min. thickness 1 mm) with adjustable metal brackets; main structure inserted and mechanically locked on the frame

Colour

White / Aluminium (39) | Grey / Black / Aluminium (E1)

Mounting

ceiling recessed

Wiring

on control gear box with quick-coupling connections; each lamp body has a specific ballast, allowing separate switch ons

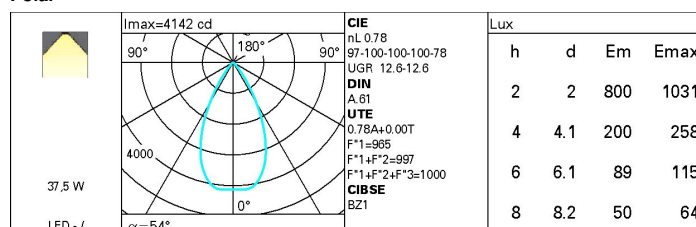
Notes

the configuration of the lamp bodies causes some limitations during angling and rotation; consult the instruction leaflet

Complies with EN60598-1 and pertinent regulations

**Technical data**

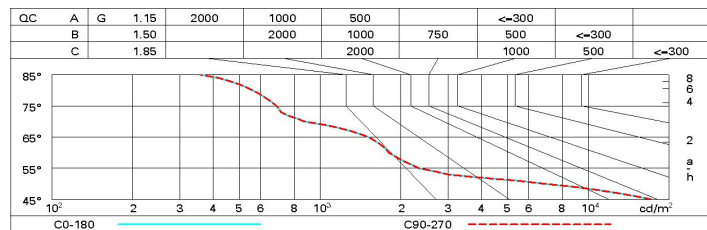
| | | | |
|----------------------------------------------------|--------|---------------------------------------|-------------------------------|
| Im system: | 6234,4 | CRI: | 80 |
| W system: | 75 | Colour temperature [K]: | 4000 |
| Im source: | 4000 | MacAdam Step: | 3 |
| W source: | 32 | Life Time LED 1: | 50.000h - L80 - B10 (Ta 25°C) |
| Luminous efficiency (Im/W, real value): | 83,1 | Lamp code: | LED |
| Im in emergency mode: | - | Number of lamps for optical assembly: | 1 |
| Total light flux at or above an angle of 90° [Lm]: | 0 | ZVEI Code: | LED |
| Light Output Ratio (L.O.R.) [%]: | 78 | Number of optical assemblies: | 2 |
| Beam angle [°]: | 54° | | |

Polar

Utilisation factors

| R | 77 | 75 | 73 | 71 | 55 | 53 | 33 | 00 | DRR |
|------|----|----|----|----|----|----|----|----|-----|
| K0.8 | 69 | 65 | 63 | 60 | 65 | 62 | 62 | 59 | 76 |
| 1.0 | 72 | 69 | 66 | 65 | 68 | 66 | 66 | 63 | 81 |
| 1.5 | 76 | 74 | 72 | 70 | 73 | 71 | 70 | 68 | 87 |
| 2.0 | 79 | 77 | 75 | 74 | 76 | 75 | 74 | 71 | 92 |
| 2.5 | 80 | 79 | 78 | 77 | 78 | 77 | 76 | 74 | 95 |
| 3.0 | 81 | 80 | 80 | 79 | 79 | 78 | 77 | 75 | 97 |
| 4.0 | 83 | 82 | 81 | 81 | 80 | 80 | 79 | 77 | 98 |
| 5.0 | 83 | 82 | 82 | 82 | 81 | 81 | 79 | 78 | 99 |

Luminance curve limit



UGR diagram

| | | | | | | | | | | | | |
|-------------------------------------------------------------|------|------|------|------|-------|------|------|------|------|-------|------|--|
| Photometric curve code: 01800000.RV1 | | | | | | | | | | | | |
| Uncorrected UGR values (at 1000 lm bare lamp luminous flux) | | | | | | | | | | | | |
| Reflect.: | | | | | | | | | | | | |
| ceiling | 0.70 | 0.70 | 0.50 | 0.50 | 0.30 | 0.70 | 0.70 | 0.50 | 0.50 | 0.30 | | |
| walls | 0.50 | 0.30 | 0.50 | 0.30 | 0.30 | 0.50 | 0.30 | 0.50 | 0.30 | 0.30 | | |
| work pl. | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | | |
| Room dim | | | | | | | | | | | | |
| x | | | | | | | | | | | | |
| y | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2H | 2H | 13.1 | 13.8 | 13.4 | 14.0 | 14.2 | 13.1 | 13.8 | 13.4 | 14.0 | 14.2 | |
| | 3H | 13.0 | 13.6 | 13.3 | 13.8 | 14.1 | 13.0 | 13.6 | 13.3 | 13.8 | 14.1 | |
| | 4H | 12.9 | 13.5 | 13.3 | 13.8 | 14.1 | 12.9 | 13.5 | 13.3 | 13.8 | 14.1 | |
| | 6H | 12.9 | 13.3 | 13.2 | 13.7 | 14.0 | 12.9 | 13.3 | 13.2 | 13.7 | 14.0 | |
| | 8H | 12.8 | 13.3 | 13.2 | 13.6 | 14.0 | 12.8 | 13.3 | 13.2 | 13.6 | 14.0 | |
| | 12H | 12.8 | 13.2 | 13.2 | 13.6 | 13.9 | 12.8 | 13.2 | 13.2 | 13.6 | 13.9 | |
| 4H | 2H | 12.9 | 13.5 | 13.3 | 13.8 | 14.1 | 12.9 | 13.5 | 13.3 | 13.8 | 14.1 | |
| | 3H | 12.8 | 13.2 | 13.2 | 13.6 | 13.9 | 12.8 | 13.2 | 13.2 | 13.6 | 13.9 | |
| | 4H | 12.7 | 13.1 | 13.1 | 13.5 | 13.9 | 12.7 | 13.1 | 13.1 | 13.5 | 13.9 | |
| | 6H | 12.6 | 13.0 | 13.1 | 13.4 | 13.8 | 12.6 | 13.0 | 13.1 | 13.4 | 13.8 | |
| | 8H | 12.6 | 12.9 | 13.0 | 13.3 | 13.7 | 12.6 | 12.9 | 13.0 | 13.3 | 13.7 | |
| | 12H | 12.5 | 12.8 | 13.0 | 13.2 | 13.7 | 12.5 | 12.8 | 13.0 | 13.2 | 13.7 | |
| 8H | 4H | 12.6 | 12.9 | 13.0 | 13.3 | 13.7 | 12.6 | 12.9 | 13.0 | 13.3 | 13.7 | |
| | 6H | 12.5 | 12.8 | 13.0 | 13.2 | 13.7 | 12.5 | 12.8 | 13.0 | 13.2 | 13.7 | |
| | 8H | 12.4 | 12.7 | 12.9 | 13.1 | 13.6 | 12.4 | 12.7 | 12.9 | 13.1 | 13.6 | |
| | 12H | 12.4 | 12.6 | 12.9 | 13.1 | 13.6 | 12.4 | 12.6 | 12.9 | 13.1 | 13.6 | |
| 12H | 4H | 12.5 | 12.8 | 13.0 | 13.2 | 13.7 | 12.5 | 12.8 | 13.0 | 13.2 | 13.7 | |
| | 6H | 12.4 | 12.7 | 12.9 | 13.1 | 13.6 | 12.4 | 12.7 | 12.9 | 13.1 | 13.6 | |
| | 8H | 12.4 | 12.6 | 12.9 | 13.1 | 13.6 | 12.4 | 12.6 | 12.9 | 13.1 | 13.6 | |
| Variations with the observer position at spacing: | | | | | | | | | | | | |
| S = | 1.0H | | 5.1 | / | -13.5 | | | 5.1 | / | -13.5 | | |
| | 1.5H | | 7.9 | / | -14.7 | | | 7.9 | / | -14.7 | | |
| | 2.0H | | 9.9 | / | -15.9 | | | 9.9 | / | -15.9 | | |