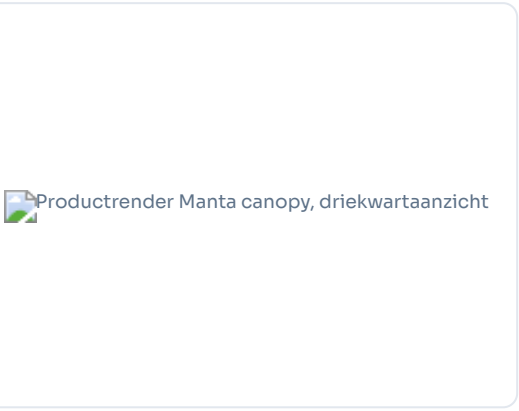
CANOPY LED LUMINAIRE

# Manta canopy




Shown: Manta Surface, 22,400 lm, 380 × 380 mm panel.

CE · IP69K · IK08 · Class II · C5 ISO 9223 · Ta −45 … +50 °C · 90–305 VAC · internal driver · DALI-2 · 0–10 V · PWM · NFC · 224 lm/W · CREE 304 retrofit · 5-year warranty

224 lumens per watt, the highest efficacy in the JEL range. The canopy luminaire for forecourts and covered areas, in a 380 × 380 mm panel that recesses, surface mounts, or drops into an existing CREE 304 opening.

| LUMINOUS FLUX | POWER | EFFICACY |
|---|---|---|
| 22,400 lm | 100 W | 224 lm/W |

| INGRESS | IMPACT | PANEL |
|---|---|---|
| IP69K | IK08 | 380 × 380 mm |

Values apply to the version without optics at 5700 K, Ta 25 °C, including driver consumption. With optics the luminous flux is 20,600 lm.

## WHY IT IS SPECIFIED

**224 lumens per watt.** A large number of LEDs driven far below their maximum. That is where the efficacy comes from, and it is why the junction temperature stays low. A canopy burns most of the year.

**Three mounting depths, one 380 × 380 panel.** Recessed at 21 mm, surface at 70 mm and surface extended at 118 mm. The extended version is the retrofit panel that drops into an existing CREE 304 opening, so a forecourt is converted without cutting the canopy.

**IP69K on a canopy.** Forecourts collect exhaust, salt and road film and are washed down. Most canopy luminaires are rated for a dry indoor ceiling; this one is rated for a pressure washer.

## WHERE IT IS USED

- Fuel and service station forecourts
- Truck and fleet fuelling canopies
- Loading dock canopies and shelters
- Covered walkways and passenger canopies
- Car park entrances and pay stations
- Drive through lanes
- Wash bay and inspection canopies
- Weighbridge and gatehouse covers
- Retrofit of existing CREE 304 canopy positions
- Covered process areas

## VERSIONS

| | Recess | Surface | Surface Extended |
|---|---|---|---|
| Code | MNAC02 | MNAC01 | MNAC03 |
| Flux | 22,400 lm | 22,400 lm | 22,400 lm |
| With optics | 20,600 lm | 20,600 lm | 20,600 lm |
| Depth | 21 mm | 70 mm | 118 mm |
| Weight | 3.9 kg | 4.9 kg | 5.4 kg |

Surface Extended is the same article as the retrofit panel for existing CREE 304 positions. Its article code is not yet issued. A high temperature version to +120 °C is covered by the **Manta HT** datasheet.

# Light output and optics

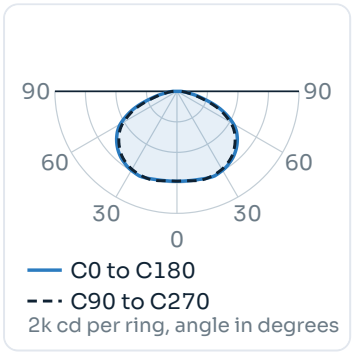
Values apply to the version without optics at Ta 25 °C, including driver consumption. All three mounting depths share the same optical platform and the same photometry.

## BEAM CHARACTERISTICS

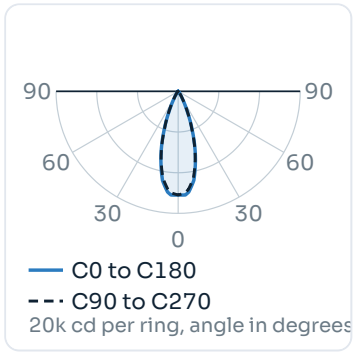
| Optic | Distribution | Beam angle 50 % of peak | Field angle 10 % of peak | Typical use |
|---|---|---|---|---|
| No optic | Very wide, diffuse | 136° | 168° | The standard build. Canopies at 4 to 6 m over a forecourt |
| 30° | Narrow, symmetric | 36° | 58° | High canopies and truck fuelling lanes above 6 m |
| 60° | Wide, symmetric | – | – | The general purpose optic for a covered lane or a dock |
| 120° | Very wide, symmetric | – | – | Very low canopies and covered walkways |

The Manta without optics reaches 224 lumens per watt precisely because there is no optic in front of the LED to take light away. With optics the flux is 20,600 lm. On a low canopy the diffuse build is normally correct; on a truck fuelling canopy above six metres a 30° optic puts the light on the lane instead of on the canopy edge.

## LIGHT DISTRIBUTION




No optic, standard build




30° narrow

## OBTRUSIVE LIGHT

| | |
|---|---|
| ULOR at 0° tilt | **0 %** |
| Under a canopy | All light is directed downward by the mounting position itself |
| Amber 2200 K | Available, for light sensitive surroundings |

A canopy luminaire is mounted in a ceiling, so the upward light output ratio is 0 % by construction. What matters on a forecourt is the light that leaves sideways past the canopy edge and reaches the carriageway or the housing behind it. The 30° optic is the answer to that, and where the boundary condition is formal the DarkLicht range covers the open areas around the canopy.

## COLOUR AND CONSISTENCY

| | |
|---|---|
| Colour temperatures | 5700 K, 5000 K, 4000 K, 3000 K, 2700 K, amber 2200 K |
| Tuneable white | 4000 K with 2200 K and 1700 K, switchable in operation |
| Colour rendering | Ra > 70 standard, optionally 80 or 90 |
| Colour consistency | MacAdam step 3 or better |
| LED service life | TM-21 L90B05 > 360,000 h at 50 °C |
| Why 224 lm/W | Many LEDs driven far below their maximum, and no optic in front of them |

# Full specification

All values apply to the standard configuration at 25 °C ambient, including lens losses and driver consumption. A hyphen means the entry does not apply to that version.

| | Recess | Surface | Surface Extended |
|---|---|---|---|
| **PERFORMANCE** | | | |
| Luminous flux | 22,400 lm, or 20,600 lm with optics | | |
| Power consumption | 100 W | | |
| Efficacy | 224 lm/W | | |
| Optics | None as standard, or 30°, 60° or 120° | | |
| **ELECTRICAL AND DRIVER** | | | |
| Supply voltage range | 90–305 VAC, 50/60 Hz | | |
| Current draw | 0.83 A at 120 V · 0.45 to 0.36 A at 220 to 277 V | | |
| Power factor at full load | > 0.9 at 70 to 100 % load | | |
| Surge protection | 6 kV line to line, 10 kV line to earth (IEC 61000-4-5) | | |
| Dimming | 0–10 V, PWM, DALI-2, or over NFC | | |
| Driver | Internal BLD120, no external box | | |
| **CONSTRUCTION** | | | |
| Housing | Cast aluminium, less than 0.08 % copper | | |
| Surface finish | Conversion layer plus 2-layer titanium-based e-coating | | |
| Bracket | Fixed bracket, aluminium, less than 0.08 % copper | | |
| Front | Diffuse chemically hardened glass, or diffuse borosilicate, IK08 | | |
| Protection class | Class II | | |
| Ingress protection | IP66, IP67, IP68 and IP69K, each class tested separately | | |
| Impact resistance | IK08 (IEC 62262) | | |
| Corrosion class | C5 industrial and marine (ISO 9223) | | |
| **DURABILITY AND DIMENSIONS** | | | |
| Ambient temperature | −45 to +50 °C | | |
| LED service life | TM-21 L90B05 > 360,000 h at 50 °C | | |
| Cable and termination | H07BQ-F, 4 cores (2 × 1.5 mm² + 2 × 0.5 mm²), 0.3 m, free wire ends. A version with an integral driver compartment and an IN gland is available to order | | |
| Dimensions | 380 × 380 × 21 mm | 380 × 380 × 70 mm | 380 × 380 × 118 mm |
| Weight | 3.9 kg | 4.9 kg | 5.4 kg |
| Retrofit | - | - | Fits an existing CREE 304 opening |
| Warranty | 5 years on the complete luminaire | | |

The 224 lumens per watt is correct and is not a typing error. It comes from a large LED count driven far below maximum, combined with a build that has no optic in front of the LEDs. With optics the figure is lower and is stated separately.

# Mechanics, mounting and driver

All drawings are to scale and dimensioned in millimetres. DXF and STEP models are available on request.

## PANEL AND MOUNTING DEPTHS


Maattekening Manta canopy met maatvoering in millimeters

| | |
|---|---|
| Panel | 380 × 380 mm, all versions |
| Recess | 20 mm deep, 3.9 kg |
| Surface | 95 mm deep, 4.9 kg |
| Surface Extended | 185 mm deep, 5.4 kg |
| Bracket | Fixed, aluminium |
| Front | Diffuse glass or borosilicate, IK08 |

## CREE 304 RETROFIT


Schema retrofit, vervanging in bestaande behuizing

| | |
|---|---|
| Which version | Surface Extended |
| Fits | An existing CREE 304 canopy opening |
| Why it matters | The canopy does not have to be cut or patched |
| Cable | 0.3 m tail, free wire ends |
| Article code | MNAC03 |

## MOUNTING AND ACCESSORIES

| | |
|---|---|
| Fixed bracket | Aluminium, supplied as standard |
| Optics | 30°, 60° or 120°, ordered as a suffix |
| Borosilicate front | Diffuse, option |
| CREE 304 retrofit | Surface Extended version |
| High temperature version | Manta HT to +120 °C. Separate datasheet |
| Open areas around the canopy | DarkLicht D or WP |

## INTERNAL DRIVER

| | |
|---|---|
| Type | BLD120, inside the housing |
| External box | None |
| Case temperature | Tc −40 to +90 °C |
| Lifetime | ≥ 100,000 h at Tc 75 °C |
| MTBF | ≥ 320,000 h at 75 °C case |
| Control | 0–10 V, PWM, DALI-2, or over NFC |

**Everything inside a 20 mm panel.** On a canopy there is no space above the ceiling for a driver box and no access to it once the panel is in. The Manta carries its driver inside and is still IP69K.

## MOUNTING


Schema plafondmontage

| | |
|---|---|
| Recess | Into the canopy ceiling, 20 mm |
| Surface | Onto the ceiling, 95 mm |
| Surface Extended | Onto the ceiling, 185 mm, or into a CREE 304 opening |
| Washdown | The panel and the seal are rated for the regime |

# Ordering, standards and documents

## ORDER CODE

Example **MNAC01-50K**

Manta Surface, 5000 K, no optic

| | |
|---|---|
| **MNAC02 · MNAC01 · MNAC03** | Recess · Surface · Surface Extended |
| **Surface Extended** | Also the CREE 304 retrofit panel. Article code not yet issued |
| **57K · 50K · 40K · 30K · 27K · 22K** | Colour temperature, amber 2200 K included |
| **TW** | Tuneable white, 4000 K with 2200 K and 1700 K |
| **.30 · .60 · .120** | Optic suffix. Without a suffix the luminaire is supplied without optics |

Without an optic suffix the Manta delivers 22,400 lm at 224 lm/W. With an optic the figure is 20,600 lm. Front material and control protocol are confirmed at order.

## COMBINATIONS

| | |
|---|---|
| Optic with any mounting depth | Possible |
| Tuneable white with any depth | Possible |
| CREE 304 retrofit | Surface Extended only |
| Borosilicate front | Possible |
| DC supply | Not available |
| High temperature | See the Manta HT |

## STANDARDS AND VERIFICATION

| Subject | Standard | Verification |
|---|---|---|
| Luminaire safety | IEC/EN 60598-1, -2-5 | In-house test |
| EMC emission and immunity | EN 55015, EN 61547 | Third party test |
| Ingress | IEC 60529 and ISO 20653. IP66, IP67, IP68, IP69K | In-house test |
| Impact and vibration | IEC 62262 IK08 · IEC 60068-2-6 at 6 G | In-house test |
| Shock and corrosion | IEC 60068-2-27 · ISO 9223 class C5, industrial and marine | In-house test |
| Photometry | IES LM-79, IES files per optic | In-house test |
| Substances | RoHS, REACH | Self-declaration |

## BEFORE YOU ORDER

A sample luminaire to hang before you commit to a project quantity.

Five years warranty on the complete luminaire.

A DIALux calculation from our engineers, on your site drawing.


QR-code naar de productpagina van de Manta canopy

## PRODUCT PAGE

IES files and revision history, DXF and STEP on request, and project references.
jelproducts.nl/en/products/manta-canopy-light

## WHERE IT EARNS ITS PLACE

The Manta earns its place under the roof. A canopy runs its lighting almost every hour of the year, it is washed down, it collects everything the traffic underneath throws up, and replacing a panel means closing the lane. At 224 lumens per watt with an IP69K rating and a retrofit version that fits the opening already in the ceiling, it answers all three at once.

**Notes.** Values are for the standard configuration; a bi-colour or high-CRI build changes the luminous flux and the quotation states the figure that applies. Luminaires per MCB is the manufacturer figure for ABB S200 at 220 V, a guide for engineering and not a substitute for the installation calculation. North American models on request. The JEL range is not ATEX or Ex certified.