

MONARCH

THE DUTCH POWERHOUSE



TECHNICAL DATASHEET

Spectral Data

HIGH EFFICIENT

| Code | Spectra | Optical properties* | | | Spectral specifications* | | | | Imparted heat | |
|-----------|--------------------------|-----------------------|--------------------|-------------------|--------------------------|-------------|-------------|--------------|---------------|--------|
| | | PhotonFlux (μmol/s)** | Consumed Power (W) | Efficacy (μmol/J) | blue 400-500 | mid 500-600 | red 600-700 | far-red >700 | W | BTU/hr |
| M.AABW.01 | Low Blue | 4070 | 1145 | 3.55 | 5.1 | 0.1 | 94.6 | 0.2 | 382 | 1303 |
| M.AACB.01 | Low Blue White | 4020 | 1175 | 3.42 | 5.5 | 4.5 | 89.8 | 0.2 | 416 | 1419 |
| M.AADH.01 | Low Blue White + Far-red | 3830 | 1195 | 3.21 | 5.6 | 8.6 | 75.4 | 10.3 | 470 | 1603 |
| M.AACW.01 | Medium Blue | 4060 | 1159 | 3.5 | 7.7 | 0.1 | 92.0 | 0.2 | 389 | 1326 |
| M.AADD.01 | Medium Blue White | 4000 | 1190 | 3.36 | 7.2 | 5.1 | 87.4 | 0.3 | 425 | 1449 |
| M.AACF.01 | Broad Spectrum | 3760 | 1230 | 3.06 | 10.3 | 15.7 | 73.6 | 0.4 | 487 | 1661 |

ECONOMIC

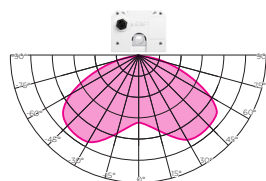
| Code | Spectra | Optical properties* | | | Spectral specifications* | | | | Imparted heat | |
|-----------|--------------------------|-----------------------|--------------------|-------------------|--------------------------|-------------|-------------|--------------|---------------|--------|
| | | PhotonFlux (μmol/s)** | Consumed Power (W) | Efficacy (μmol/J) | blue 400-500 | mid 500-600 | red 600-700 | far-red >700 | W | BTU/hr |
| M.AABX.01 | Low Blue | 3810 | 1145 | 3.33 | 5.0 | 0.1 | 94.7 | 0.2 | 433 | 1477 |
| M.AACC.01 | Low Blue White | 3750 | 1175 | 3.19 | 5.3 | 4.3 | 90.1 | 0.3 | 465 | 1586 |
| M.AADI.01 | Low Blue White + Far-red | 3560 | 1190 | 2.99 | 5.5 | 8.4 | 76.0 | 10.2 | 519 | 1770 |
| M.AACX.01 | Medium Blue | 3800 | 1159 | 3.28 | 7.5 | 0.1 | 92.2 | 0.2 | 440 | 1500 |
| M.AADE.01 | Medium Blue White | 3730 | 1190 | 3.13 | 7.0 | 5.0 | 87.8 | 0.3 | 474 | 1617 |
| M.AACG.01 | Broad Spectrum | 3520 | 1230 | 2.86 | 10 | 15.2 | 74.3 | 0.5 | 537 | 1832 |

HPS REPLACEMENT

| Code | Spectra | Optical properties* | | | Spectral specifications* | | | | Imparted heat | |
|-----------|--------------------------|-----------------------|--------------------|-------------------|--------------------------|-------------|-------------|--------------|---------------|--------|
| | | PhotonFlux (μmol/s)** | Consumed Power (W) | Efficacy (μmol/J) | blue 400-500 | mid 500-600 | red 600-700 | far-red >700 | W | BTU/hr |
| M.AABZ.01 | Low Blue | 3530 | 1050 | 3.36 | 5.0 | 0.1 | 94.7 | 0.2 | 389 | 1327 |
| M.AACD.01 | Low Blue White | 3410 | 1050 | 3.25 | 5.4 | 4.4 | 90.0 | 0.2 | 407 | 1388 |
| M.AADJ.01 | Low Blue White + Far-red | 3200 | 1050 | 3.05 | 5.5 | 8.4 | 75.8 | 10.3 | 446 | 1521 |
| M.AADB.01 | Medium Blue | 3480 | 1050 | 3.31 | 7.5 | 0.1 | 92.2 | 0.2 | 389 | 1327 |
| M.AADF.01 | Medium Blue White | 3360 | 1050 | 3.2 | 7.1 | 5.0 | 87.7 | 0.3 | 409 | 1395 |
| M.AACH.01 | Broad Spectrum | 3070 | 1050 | 2.92 | 10.1 | 15.4 | 74.1 | 0.4 | 446 | 1521 |

Light distribution

Wide Beam



Other spectrum variations on request.

* Electrical and optical properties have a tolerance of ± 5%.

** Output is defined as the total photon flux between 400-800nm

Typical values for stable operation at 77°F | 25°C cooling water temperature

Product features

| | |
|------------------------------------|--|
| Housing material and finishing | Aluminium (IK10). Anodized / antifouling powder coating RAL 9010 (dirt repellent) |
| LED protection cover | High transmission glass (transmission >98%) (IK07) |
| Beam angle | Wide Beam: 140° |
| Ingress Protection LED compartment | IP67 (dust- and watertight). Fixtures can be cleaned by using pressurized water, the complete electrical circuit is sealed waterproof. |
| Lifespan and warranty | L90 B05 - 50,000 hours, 5 year full warranty |

Technical data

| | |
|---------------------------------|---|
| Power factor | > 0.96 @ 400 VAC |
| Total Harmonic Distortion (THD) | < 12% |
| Voltage range | 277 - 480 VAC |
| Current range | 4.6 - 2.3 A |
| Frequency range | 50/60 Hz |
| Inrush energy | 4,2 A ² s |
| Inrush current peak | 20A @ 480 VAC |
| Leakage current | < 0.7 mA @ 480 VAC |
| Isolation class | Class I |
| Connector | Integrated: 3 pole connector Male (Wieland RST20i3 black) |
| Operation conditions | 32 to 113°F 0 to 45°C / 95% RH |
| Storage conditions | 32 to 140°F 0 to 60°C / 85% RH |

Cooling liquid and circuit

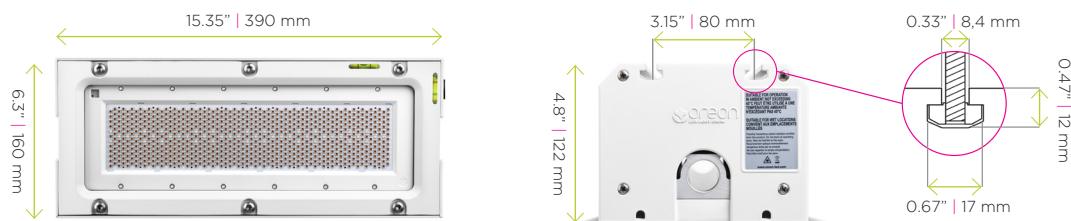
| | |
|----------------------------|---|
| Cooling liquid | Water (pH 4-8) |
| Cooling liquid temperature | From dew point to 113°F 45°C |
| Water connection | Pipe thread ISO 228-G 3/4" (2x) |
| Required flow velocity | Flow velocity must be at least 0.12 m/s and should not exceed 1.5m/s. |
| Flow velocity formula | $v = Q \cdot n / 19000$ (velocity in m/s, channel inner diameter 24.1mm) v: minimally required flow velocity of water in the cooling channel of the lamp. (m/s) Q: heat imparted per fixture (Watt), n: number of fixtures in series on a cooling pipe. |

Mounting

Topside has two dedicated T-shaped grooves. Suspension of fixture by 4x M6 bolt & T-nut or custom made bracket.

Weight and dimensions

| | |
|--------------------------------|---|
| Nett weight | 20.5 lb 9,3 kg |
| Product dimensions (L x W x H) | 15.35" x 6.3" x 4.8" 390 mm x 160 mm x 122 mm |
| Carton dimensions (L x W x H) | 21.65" x 8.66" x 6.89" 550 mm x 220 mm x 175 mm |



Logistic specifications

| | |
|-------------------------|-------------------------|
| Quantity per pallet | 49 pcs. |
| Gross weight per pallet | 1148.7 lb 521 kg |
| Pallet dimensions (EUR) | 31.5" x 47.24" x 56.69" |

HS-code

Air freight

| | |
|-------------------------|-------------------------|
| Quantity per pallet | 49 pcs. |
| Gross weight per pallet | 1148.7 lb 521 kg |
| Pallet dimensions (EUR) | 31.5" x 47.24" x 56.69" |
| HS-code | 800 x 1200 x 1440 mm |
| HS-code | 9405 42 39 90 |

Sea/Road freight

| | |
|-------------------------|-------------------------|
| Quantity per pallet | 63 pcs. |
| Gross weight per pallet | 1461.7 lb 663 kg |
| Pallet dimensions (EUR) | 31.5" x 47.24" x 71.26" |
| HS-code | 800 x 1200 x 1810 mm |
| HS-code | 9405 42 39 90 |

Compliance

Conforms to/Certified to ANSI/CAN/UL 8800
(Pending)



V220222M

Oreon

Lorentzlaan 6
3401 MX IJsselstein
The Netherlands

T +31 30 760 0660
E info@oreon-led.com
W www.oreon-led.com

