Niteko

DATASHEET

LIGHTING FOR **LARGE AREAS**

NEW

MODULA

Modular LED floodlight





NEW

MODULA

Extreme power, absolute precision.

Modular LED floodlight, ideal for lighting sports facilities and large areas requiring high-end performance.



TECHNICAL DESCRIPTION

Modular LED floodlight for sport facilities lighting, tunnels and large indoor and outdoor areas, brand **NITEKO**, **MODULA** series, **3x1, 2x2** and **3x2** models, suitable for various mounting options thanks to a reinforced adjustable bracket for pinpoint light direction, with a (actual) maximum power consumption up to **750W** in the **3x1** model, up to **1,000W** in the **2x2** model and up to **1,500W** in the **3x2** model, and power supply of **200-480V A.C. – 50/60Hz.**

Floodlight equipped with **high-power LEDs** powered by a constant current up to a maximum of **500mA**, with a correlated colour temperature of **3,000K** in the standard version, or with optional CCTs of **1,800K**, **2.200K**, **2,700K**, **3,000K**, **5.000K**, a colour rendering index **(CRI)** greater than **70** in the standard version, or **CRI>80** or **CRI>90** on request, and a photobiological risk class not exceeding **RG1**.

Light source

Light source efficiency greater than **200 lm/W** (CCT 5,000K / CRI 70) and lifetime, under optimal operating conditions, of:

- Lifespan 100,000 h (L95 B10: T_a = 25 °C; IF ≤ 500mA);
- Lifespan 120,000 h (L90 B10: T_a = 25 °C; IF ≤ 500mA);
- Lifespan 270,000 h (L80 B10: T_a = 25 °C; IF ≤ 500mA);
- Lifespan 450,000 h (L70 B10: T_a = 25 °C; IF ≤ 500mA).

Floodlight's luminous flux from **67,267 lm** to **217,066 lm,** with luminous efficacy greater than **140lm/W (**CCT 5,000K / CRI 70) depending on the configuration (number of LEDs and supply current, CCT, CRI, optics) and an energy efficiency rating higher than **A++.**

Power

Fixture with an effective power output of between **600** and **1,500W** with 200-480V AC – 50/60Hz power supply (operating range 180-528V AC). Programmable Inventronics NFS series drivers with IP66 enclosure, housed in the separate electrical compartment, with power factor PF ≥ 0.90 from 60 to 100% load (typical

0.99), total harmonic distortion THD ≤ 20%, typical efficiency of 96% at full load and a lifetime of 100,000 hours at Tcase 70°C.

In the standard version, the power supply unit comes with the following functions:

- Automatic time-based dimming with 3 modes (Self Adapting-Midnight, Self Adapting-Percentage, Traditional Timer), programmable via NFC;
- Dimming from 0.1 to 100% with dim-to-off (standby ≤ 0.5W) and integrated power metering (±1%);
- Output lumen compensation over the lifetime (OLC) and end-of-life indication (EOL).

Protection

Driver protection against over-temperature, short circuit, output over-voltage, over-power, input under-voltage and over-voltage; line surge protection up to 10kV in differential mode and 10kV in common mode (EN 61000-4-5).

EOS-free luminaire equipped with specific technical features designed to prevent the formation of parasitic capacitance, thereby minimising damage caused by electrical overstress (EOS).

VOC-free luminaire constructed using non-metallic materials and components with high chemical compatibility with the LED source to prevent the release of volatile organic compounds (VOCs) that could affect performance, stability and colour temperature over time.

Class I insulated floodlight with an **IP66** protection rating and an impact resistance rating of **IK10** (pending), with an operating temperature range of **-40°C** to **+50°C** and a storage temperature range of **-40°C** to **+80°C,** consisting of:

- **6063 extruded** aluminium **modules** with excellent surface finish and high thermal conductivity, RAL9006;
- **supporting frame, bracket** and **electrical box** made from painted die-cast aluminium;
- simplified installation with an **adjustable bracket** that allows for precise and easy aiming;
- **electrical compartment** separate from **optical compartment** and extensive external cooling fins for superior thermal management;
- **tilting adjustment system** with a graduated scale from **-135° to +135°** and a **slotted hole** for sliding with a maximum travel of 75mm, complete with a plastic protective cover to preserve the locking screws;
- **supporting frame** that allows for tilting adjustment of the outer LED module rows from **-25° to +25°** and **adjustable bracket** from -**90**° to +**90**°;
- high-efficiency modular PMMA optical components assembled on the LED modules using special fixing screws; these can be removed to allow for easy replacement during maintenance;
- **H07RN-F outgoing** multi-pole cable (standard length 1m).

Remote-control

Drivers with built-in control interface, available on request for the following functions:

- Control via DALI-2 digital signal with D4i data (IEC 62386 parts 101, 102, 207, 250-253) and integrated DALI bus power supply;
- DMX512-RDM control (up to 32 drivers daisy-chained, 300 m) with dynamic effects up to 44 commands per second;
- Separate control of the driver channels: 2 channels in the 2x2 and 3x2 1,200W models, 3 channels in the 3x1 900W and 3x2 1,500W models.

Certifications

This appliance complies with product standards and meets the Minimum Environmental Criteria (CAM) in accordance with Ministerial Decree of 27 September 2017 (Official Gazette No. 244 of 18 October 2017).



*Pending

TECHNICAL SPECIFICATIONS

MAIN Features

Luminaire type	LED floodlight
Applications	Lighting of sports facilities, tunnels, industrial and commercial areas, infrastructure, bridges, airports and stations
Brand	Niteko
Series	MODULA
Model	3x1, 2x2, 3x2
Mounting	Architectural with adjustable bracket from -135°to +135°, with possible independent tilting of outer LED modules from -25° to +25° and an adjustable bracket rotation from -90° to +90°
Effective power	600W -1,500W (Tolerance +5%)
Luminaire efficacy	η_{APP} ≥ 140 lm/W (CCT 5,000K / CRI 70)
Operating temperature	Operating temperature: -40°C to + 50°C; Storage temperature; -40°C to +80°C
Estimated service life	L95 B10: > 100.000 h (T_a = 25 ° C ; IF ≤ 500mA); L90 B10: > 120.000 h (T_a = 25 ° C ; IF ≤ 500mA); L80 B10: > 270.000 h (T_a = 25 ° C ; IF ≤ 500mA); L70 B10: > 450.000 h (T_a = 25 ° C ; IF ≤ 500mA);
Certifications	CE, RoHS, ENEC (pending), IP66, IK10 (pending), 1,000h hour salt spray test, photobiological safety, photometric certification, EOS Free, VOC Free, Shock&Vibration Test (pending).

OPTICAL Features

Light source	High-power LEDs powered by a constant current of less than 500mA
Optical system	Independent and replaceable PMMA LED and optical modules
Source luminous flux	3X1 600W: 77,565 lm (CCT 5,700K; CRI>70) – 95,535 lm (CCT 4,000K; CRI>70); 3X1 750W: 100,675 lm (CCT 5,700K; CRI>70) – 109,602 lm (CCT 4,000K; CRI>70); 2X2 800W: 115,795 lm (CCT 5,700K; CRI>70) – 124,022 lm (CCT 4,000K; CRI>70); 2X2 1,000W: 13,.641 lm (CCT 5,700K; CRI>70) – 150,326 lm (CCT 4,000K; CRI>70); 3X2 1,200W: 174,353 lm (CCT 5,700K; CRI>70) – 180,076lm (CCT 4,000K; CRI>70); 3X2 1,500W: 200,827 lm (CCT 5,700K; CRI>70) – 226,280lm (CCT 4,000K; CRI>70) (Tolerance: ± 7%)
Source luminous efficacy	η_{LED} ≥ 200 lm/W (CCT 5,000K / CRI 70)
Colour temperature	Standard: 3.000K; Optional: 1,800K, 2,200K, 2,700K, 4,000K, 5,000K, 5,700K (Tolerance ±2,5%)
Colour Rendering Index	Standard: CRI>70; Optional: CRI>80, CRI>90
Photometry	Asymmetrical, symmetrical
Optical Efficiency	80-95%
Photometric classes	Luminous intensity class G*2; Glare index class D.6

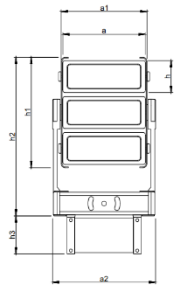
	Photobiological safety	Risk class: RG1; IR and UV radiation: absent
	Switch-on/re-switch-on time	tA ≤ 0.5 s (time-based dimming, DMX-RDM); tA ≤ 1 s (DALI-2)
ELECTRICAL Features	Power supply	200-480 V a.c. – 50/60 Hz (operating range 180-528 V a.c.); Programmable Inventronics NFS series drivers (IP66): typical efficiency 96%, PF ≥ 0.90 (60-100% load), THD ≤ 20%, lifetime 100,000 h at Tcase 70°C. Available standard functions: - Time-based dimming (3 modes), programmable via NFC; - Dimming 0.1-100% with dim-to-off; - Output lumen compensation (OLC) and end-of-life indication (EOL).
	Electrical connection	Plastic cable gland for the primary power supply cable inlet, control cable inlet, and power supply cable outlet from the wiring compartment
	Insulation class	Class I
	Electrical protection	Surge protection up to 10kV DM and 10kV CM (driver); driver protections OTP, SCP, OVP, OPP, IUVP and IOVP.
MECHANICAL Features	Materials	Body: extruded 6063 aluminium; Support frame, bracket and electrical box: painted die-cast aluminium; Optics: high-transparency and high-efficiency PC modules; Gaskets: anti-aging silicone gaskets molded to the body geometry; Screws: A2 stainless steel.
	Colour	Standard: RAL 9006; Optional: other RAL colours available on request
	Protection rating	IP66; IK10 (pending)
	Dimensions and weight	3x1: 376x485x115mm; 14,5 kg 2x2: 746x325x166mm; 19 kg 3x2: 746x485x166mm; 25 kg

LIGHTING FEATURES

PRODUCT ITEM CODE	POWER	NOMINAL LUMINOUS FLUX (xxyy)					
		4070 5070	3070	2270 3580 4080 5080 5780	3080	2270 2780	1870 2790
	W	lm					
MODULA-3X1-600W-xxyy-**15-**rr	600	95.536	90.315	88.339	82.271	79.824	67.267
MODULA-3X1-600W-xxyy-**45-**rr		93.205	88.111	86.184	80.263	77.877	65.626
MODULA-3X1-600W-xxyy-**90-**rr		86.161	81.452	79.670	74.198	71.991	60.666
MODULA-3X1-600W-xxyy-**Az-**rr		91.741	86.727	84.830	79.003	76.653	64.595
MODULA-3X1-750W-xxyy-**15-**rr	750	109.602	103.612	101.345	94.384	91.577	77.171
MODULA-3X1-750W-xxyy-**45-**rr		107.153	101.297	99.081	92.275	89.531	75.446
MODULA-3X1-750W-xxyy-**90-**rr		100.861	95.349	93.263	86.856	84.273	71.016
MODULA-3X1-750W-xxyy-**Az-**rr		108.811	102.864	100.614	93.703	90.916	76.614
MODULA-2X2-800W-xxyy-**15-**rr	800	124.022	117.244	114.679	106.802	103.625	87.324
MODULA-2X2-800W-xxyy-**45-**rr		121.364	114.731	112.221	104.513	101.404	85.452
MODULA-2X2-800W-xxyy-**90-**rr		112.654	106.497	104.168	97.012	94.127	79.320
MODULA-2X2-800W-xxyy-**Az-**rr		119.740	113.196	110.720	103.114	100.048	84.309
MODULA-2X2-1000W-xxyy-**15-**rr	1.000	150.326	142.110	139.002	129.453	125.603	105.845
MODULA-2X2-1000W-xxyy-**45-**rr		147.693	139.621	136.567	127.186	123.403	103.991
MODULA-2X2-1000W-xxyy-**90-**rr		136.641	129.173	126.348	117.668	114.169	96.209
MODULA-2X2-1000W-xxyy-**Az-**rr		145.043	137.116	134.117	124.904	121.189	102.125
MODULA-3x2-1200W-xxyy-**15-**rr	1.200	187.345	177.106	173.232	161.332	156.534	131.910
MODULA-3x2-1200W-xxyy-**45-**rr		183.331	173.311	169.520	157.875	153.180	129.083
MODULA-3x2-1200W-xxyy-**90-**rr		169.762	160.484	156.973	146.191	141.843	119.529
MODULA-3x2-1200W-xxyy-**Az-**rr		180.076	170.234	166.510	155.072	150.461	126.792
MODULA-3x2-1500W-xxyy-**15-**rr	1.500	226.280	213.913	209.234	194.861	189.066	159.324
MODULA-3x2-1500W-xxyy-**45-**rr		221.390	209.290	204.712	190.650	184.980	155.881
MODULA-3x2-1500W-xxyy-**90-**rr		204.877	193.680	189.443	176.430	171.183	144.254
MODULA-3x2-1500W-xxyy-**Az-**rr		217.066	205.203	200.714	186.926	181.367	152.836

TECHNICAL DRAWINGS

MODULA 3x1



a 360 mm
a1 376 mm
a2 450 mm
h 140 mm
h1 485 mm
h2 652-727 mm
h3 166 mm

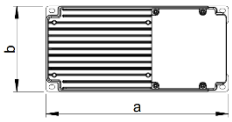


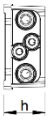
b 94 mm
b1 115 mm
b2 256 mm

Weight 14,5 kg

Wind exposure surface
Base 0,26 m^2
Side 0,08 m^2

INTELLIGENT DRIVER



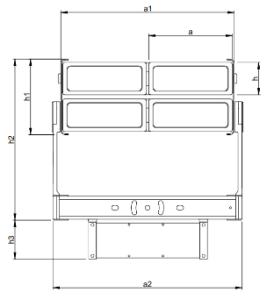


a 310 mm
b 145 mm
h 70 mm

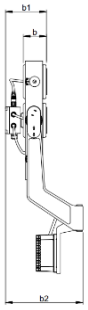
Weight 3,1 kg

TECHNICAL DRAWINGS

MODULA 2x2



a 360 mm
a1 746 mm
a2 820 mm
h 140 mm
h1 325 mm
h2 520-595 mm
h3 94 mm

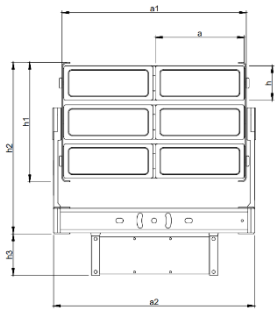


b 94 mm
b1 115 mm
b2 256 mm

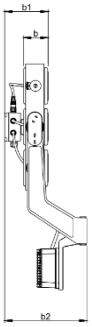
Weight 19,0 kg

Wind exposure surface
Base 0,38 m^2
Side 0,08 m^2

MODULA 3x2



a 360 mm
a1 746 mm
a2 820 mm
h 140 mm
h1 485 mm
h2 652-727 mm
h3 166 mm

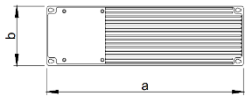


b 94 mm
b1 166 mm
b2 313 mm

Weight 25,0 kg

Wind exposure surface
Base 0,48 m^2
Side 0,08 m^2

INTELLIGENT DRIVER





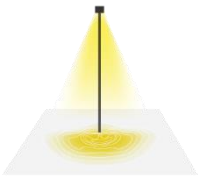
a 500 mm
b 150 mm
h 81 mm

Weight 6,9 kg

PHOTOMETRIC DATA

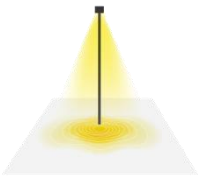


Asymmetrical



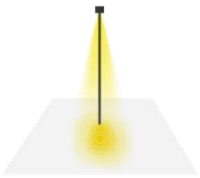
A65 - 130°x 65°

η 100,0% - G*4



A2 - 140°x 45°

η 84,7% - G*4



A3 - 90°x 60°

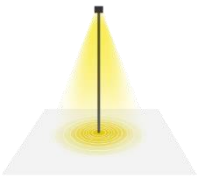
η 86,7% - G*6



Symmetrical

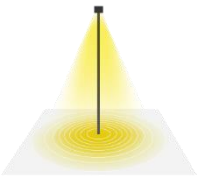
15 - 15°x 15°

η100 ,0% - G*6



45 - 45°x 45°

η100,0% - G*6



90 - 90°x 90°

η100,0% - G*6

MODULA SERIES



3x1

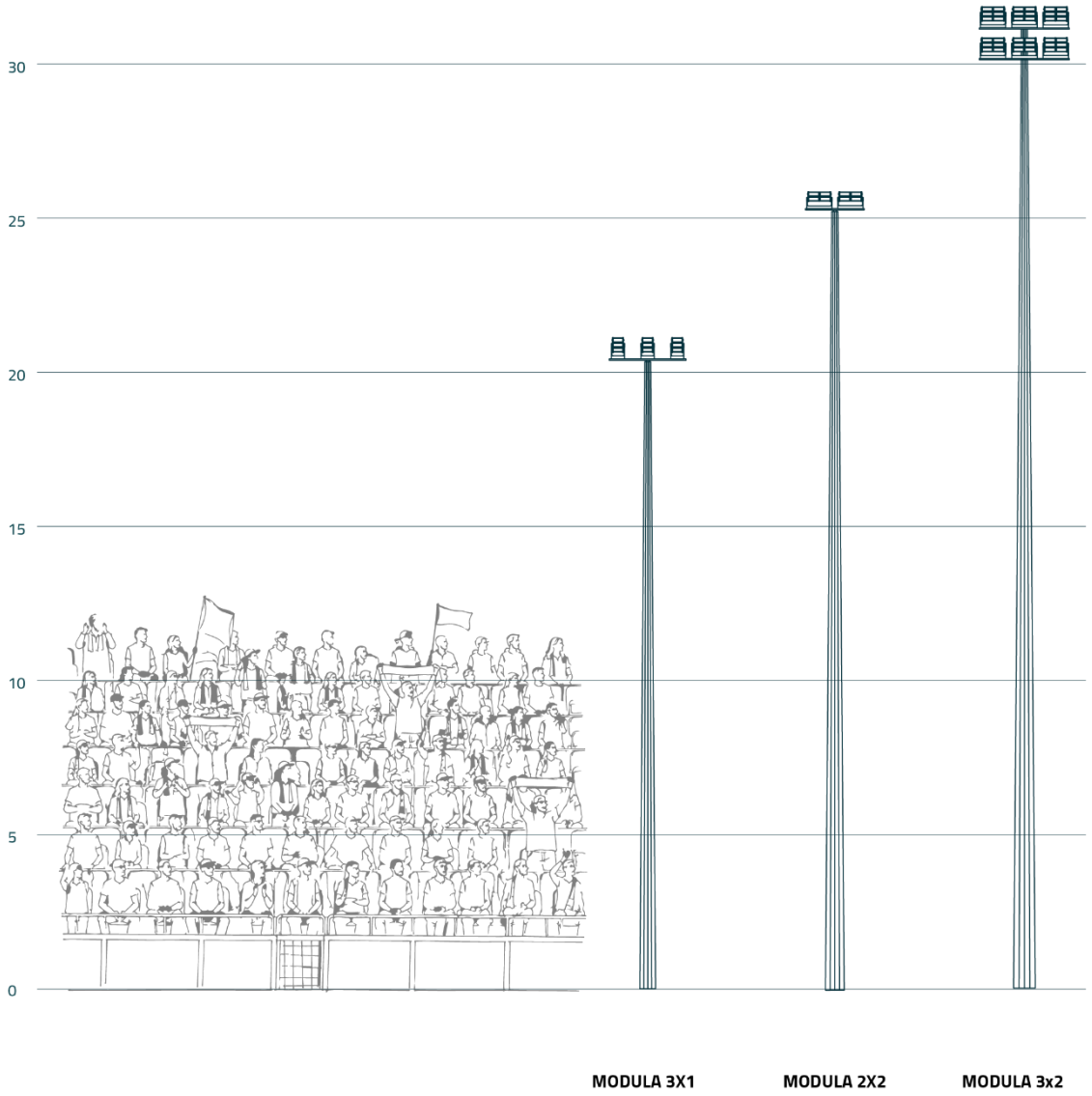


2x2



3x2

MOUNTING EXAMPLES



REFERENCE



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