

Distributed Array Gen II LED Modules

High efficacy solutions for diffuse ambient lighting



Key Features & Benefits

- High efficacy up to 145* LPW
- Uniform LED grid pattern
- Parallel design for serial wiring
- Poke in wire connectors
- Can operate on single or multi channel power supply
- Delivers even and diffuse light
- Thermally independent requiring no additional heat sinking
- Simplifies luminaire design
- Minimizes optical requirements
- Color variation within 3 MacAdam steps
- Ideal replacement for linear or area fluorescent sources
- 80+ CRI
- Service life >60,000 hours when temperature at Tc point is maintained at 85°C
- Compatible with dimming systems

The Distributed Array Gen II LED Module portfolio from OSRAM offers an innovative solution for ambient illumination applications. The Distributed Array Gen II boards consist of multiple low-power LEDs in a precise layout that enables thermal self-management, delivers high efficacy at all CCTs and eliminates the need for supplemental heat sinking. The boards produce an even and diffuse light that reduces the need for multiple optical layers, simplifying the luminaire design and maximizing optical efficiency. The Distributed Array Gen II products are a long-life, energy-efficient alternative to linear fluorescent sources.

The Distributed Array Gen II LED Modules are designed for optimum performance when paired with OPTOTRONIC® constant current power supplies for maximum system efficiency and life expectancy.

*Higher LPW is possible at lower drive currents

Product Offering

Ordering Abbreviation	Nominal Length (LxW)	LED Rows
L9LR/250C/8xx/DA1R/280x19	11" x 0.75"	1
L9LR/250C/8xx/DA1R/280x38	11" x 1.5"	1
L6LR/166C/8xx/DA3R/178x38	7" x 1.5"	3
L8LR/250C/8xx/DA3R/229x38	9" x 1.5"	3
L9LR/250C/8xx/DA3R/280x38	11" x 1.5"	3
L9LR/250C/8xx/DA3R/289x38	11.4" x 1.5"	3
L9AR/250C/8xx/DA/221x221	8" x 8"	Square Panel
L16AR/435C/8xx/DA/259x259	10" x 10"	Square Panel

Application Information

Applications

- Accent/decorative lighting
- General lighting
- Office lighting
- Task lighting
- Undercabinet lighting

Specifications and Certifications



The OSRAM Distributed Array Gen II Family is UL8750 Recognized for US and Canada Class 2 Units (UL File# E320662).



This light source meets restrictions on hazardous substances.



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Information

Item Number	Ordering Abbreviation	Max Rated Input Drive Current (mA)	Dimensions (L x W)	Qty. of LEDs	Input Power (W)*	Color Temperature	CRI	Lumens (lm)*	LPW
72121	L9LR/250C/830/DA1R/280x19	300	11" x 0.75"	36	10.5	3000K	>80	1175	112
72135	L9LR/250C/835/DA1R/280x19	300	11" x 0.75"	36	10.5	3500K	>80	1200	114
72161	L9LR/250C/840/DA1R/280x19	300	11" x 0.75"	36	10.5	4000K	>80	1250	119
72165	L9LR/250C/850/DA1R/280x19	300	11" x 0.75"	36	10.5	5000K	>80	1200	114
72104	L9LR/250C/830/DA1R/280x38	300	11" x 1.5"	36	10.5	3000K	>80	1175	112
72105	L9LR/250C/835/DA1R/280x38	300	11" x 1.5"	36	10.5	3500K	>80	1200	114
72106	L9LR/250C/840/DA1R/280x38	300	11" x 1.5"	36	10.5	4000K	>80	1250	119
72120	L9LR/250C/850/DA1R/280x38	300	11" x 1.5"	36	10.5	5000K	>80	1200	114
71991	L6LR/166C/827/DA3R/178x38	200	7" x 1.5"	24	7	2700K	>80	800	114
71992	L6LR/166C/830/DA3R/178x38	200	7" x 1.5"	24	7	3000K	>80	800	114
71993	L6LR/166C/835/DA3R/178x38	200	7" x 1.5"	24	7	3500K	>80	800	114
71994	L6LR/166C/840/DA3R/178x38	200	7" x 1.5"	24	7	4000K	>80	800	114
71995	L6LR/166C/850/DA3R/178x38	200	7" x 1.5"	24	7	5000K	>80	800	114
71996	L8LR/250C/830/DA3R/229x38	300	9" x 1.5"	30	9	3000K	>80	1000	111
71997	L8LR/250C/835/DA3R/229x38	300	9" x 1.5"	30	9	3500K	>80	1000	111
71998	L8LR/250C/840/DA3R/229x38	300	9" x 1.5"	30	9	4000K	>80	1000	111
71999	L8LR/250C/850/DA3R/229x38	300	9" x 1.5"	30	9	5000K	>80	1000	111
71987	L9LR/250C/830/DA3R/280x38	300	11" x 1.5"	36	10.5	3000K	>80	1150	110
71988	L9LR/250C/835/DA3R/280x38	300	11" x 1.5"	36	10.5	3500K	>80	1175	112
71989	L9LR/250C/840/DA3R/280x38	300	11" x 1.5"	36	10.5	4000K	>80	1225	117
71990	L9LR/250C/850/DA3R/280x38	300	11" x 1.5"	36	10.5	5000K	>80	1250	119
71912	L9LR/250C/830/DA3R/289x38	300	11.4" x 1.5"	36	10.5	3000K	>80	1150	110
71913	L9LR/250C/835/DA3R/289x38	300	11.4" x 1.5"	36	10.5	3500K	>80	1175	112
71914	L9LR/250C/840/DA3R/289x38	300	11.4" x 1.5"	36	10.5	4000K	>80	1225	117
71915	L9LR/250C/850/DA3R/289x38	300	11.4" x 1.5"	36	10.5	5000K	>80	1250	119
72211	L9AR/250C/830/DA/221x221	300	8.7" x 8.7"	36	10.5	3000K	>80	1200	114
72242	L9AR/250C/835/DA/221x221	300	8.7" x 8.7"	36	10.5	3500K	>80	1225	117
72246	L9AR/250C/840/DA/221x221	300	8.7" x 8.7"	36	10.5	4000K	>80	1225	117
72255	L9AR/250C/850/DA/221x221	300	8.7" x 8.7"	36	10.5	5000K	>80	1250	119
72204	L16AR/435C/830/DA/259x259	500	10.2" x 10.2"	60	18	3000K	>80	2050	114
72206	L16AR/435C/835/DA/259x259	500	10.2" x 10.2"	60	18	3500K	>80	2050	114
72207	L16AR/435C/840/DA/259x259	500	10.2" x 10.2"	60	18	4000K	>80	2175	121
72210	L16AR/435C/850/DA/259x259	500	10.2" x 10.2"	60	18	5000K	>80	2100	117

*Nominal ratings at board Tc of 35°C (±5°).

Notes:

1. All data is related to the entire module. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.
2. Performance values were taken at steady state. Instant-on measurements may be higher.
3. Recommended for indoor use.
4. Meets Zhaga Consortium Book 7.

Ordering Guide

L	9	L	R	/	XXXC	/	8	30	/	DAXX	/	YYYxZZZ
LED	Wattage	L = Linear A = Area	Rigid		XXX = Current in mA		CRI > 80	CCT 27 = 2700K 30 = 3000K 35 = 3500K 40 = 4000K 50 = 5000K		DA = Distributed Array Square Panel DA1R = Distributed Array 1 Row of LEDs DA3R = Distributed Array 3 Rows of LEDs		YYY = Length in mm. ZZZ = Width in mm.

Power Supply Information

Module	OT40W Single-Channel Programmable	OT50W Multi-Channel (4 Channels)	OT80W or OT100W Multi-Channel (4 Channels)
All 11" 3R and 1R Modules			
All 8" x 8" Modules	4, NAED 79441, 79442, 79448, 79449 (configured to 1140 mA)	4 (1 per Channel), NAED 79301	8 (2 per Channel), NAED 79552
All 9" 3R Modules	4, NAED 79441, 79442, 79448, 79449 (configured to 1200 mA)	4 (1 per Channel), NAED 79301	8 (2 per Channel), NAED 79552
All 7" 3R Modules	4, NAED 79441, 79442, 79448, 79449 (configured to 800 mA)	4 (1 per Channel), NAED 79305	12 (3 per Channel), NAED 79552
All 10" x 10" Modules	2, NAED 79441, 79442, 79448, 79449 (configured to 1000 mA)	2 (2 per Channel), NAED 79304	4 (1 per Channel), NAED 79554

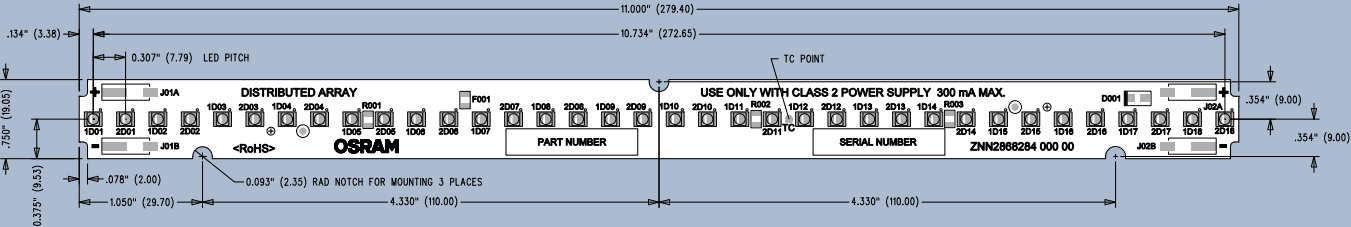
Minimum and Maximum Ratings

Parameter	Values
Operating Temperature at Tc Point	-30 to +85°C (-22 to +185°F)
Storage Temperature Range	-30 to +80°C (-22 to +176°F)

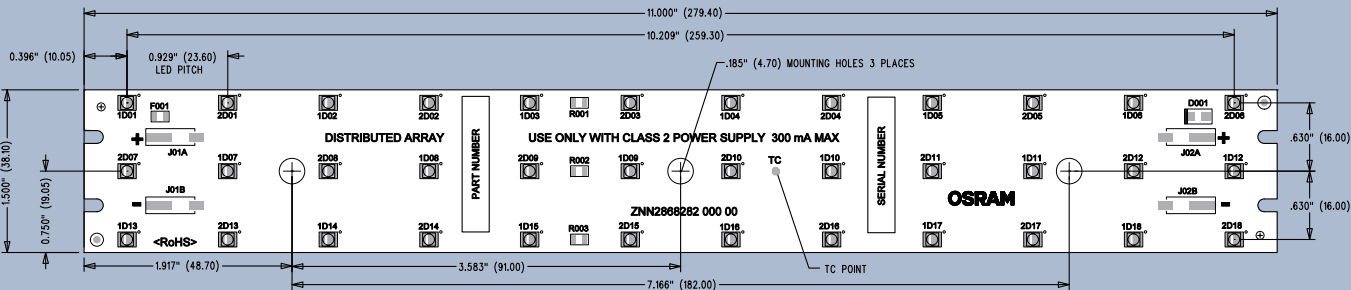
- Notes:
- Exceeding maximum ratings may damage the LED module and cause potential safety hazards.
 - Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.
 - Incorrect wiring may damage the LED module.
 - Optimized for use with OPTOTRONIC constant current power supplies.

Assembly Diagram

36 LED 11" x 0.75"



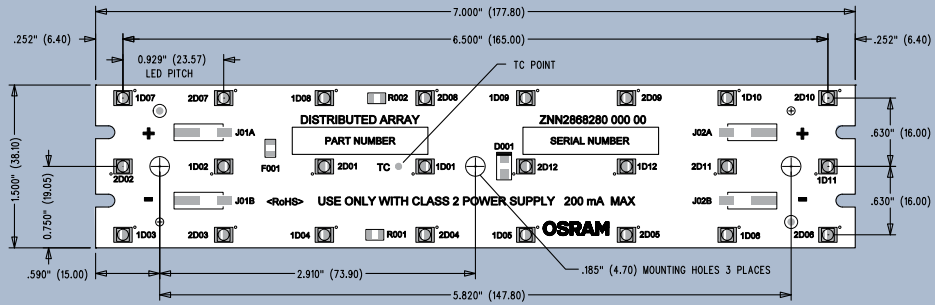
36 LED 11" x 1.5"



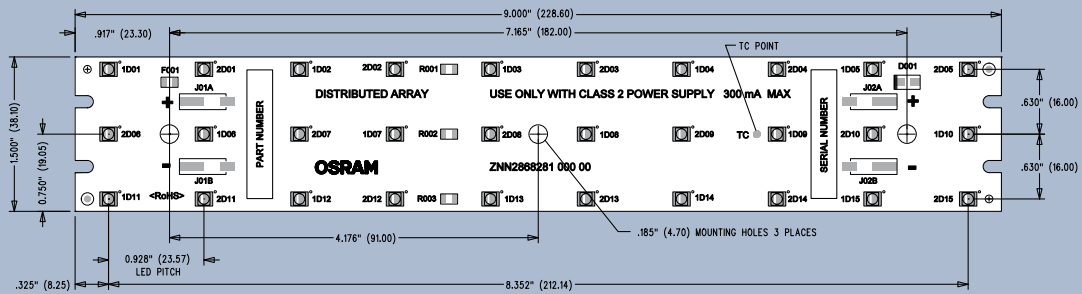
Dimensions in inches (mm)

Assembly Diagram

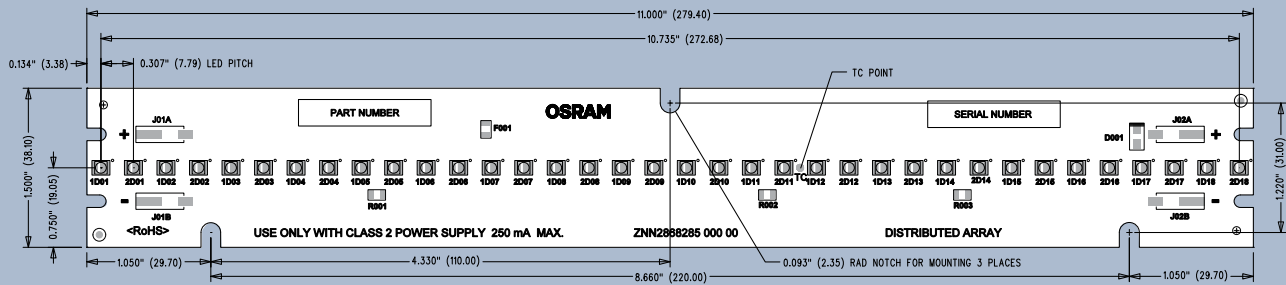
24 LED 7" x 1.5"



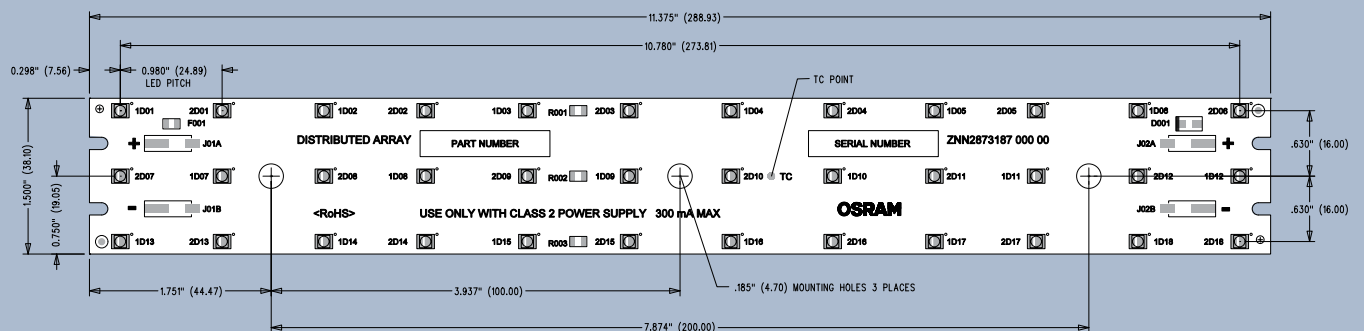
30 LED 9" x 1.5"



36 LED 11" x 1.5" - Meets Zhaga Consortium Book 7



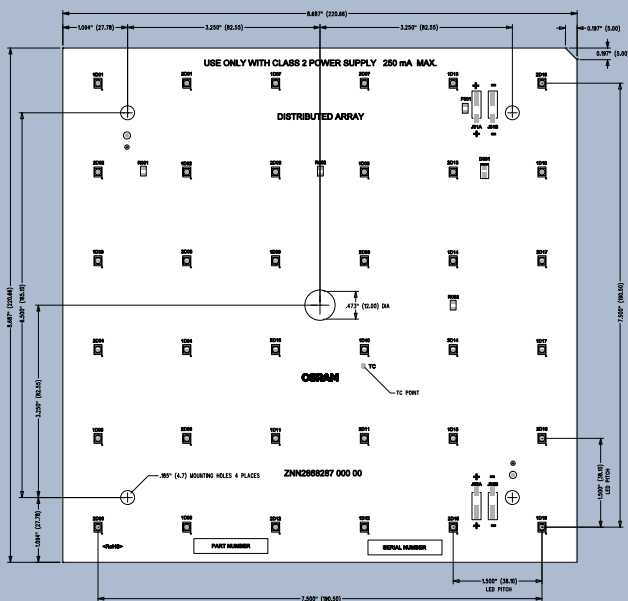
36 LED 11.4" x 1.5"



Dimensions in inches (mm)

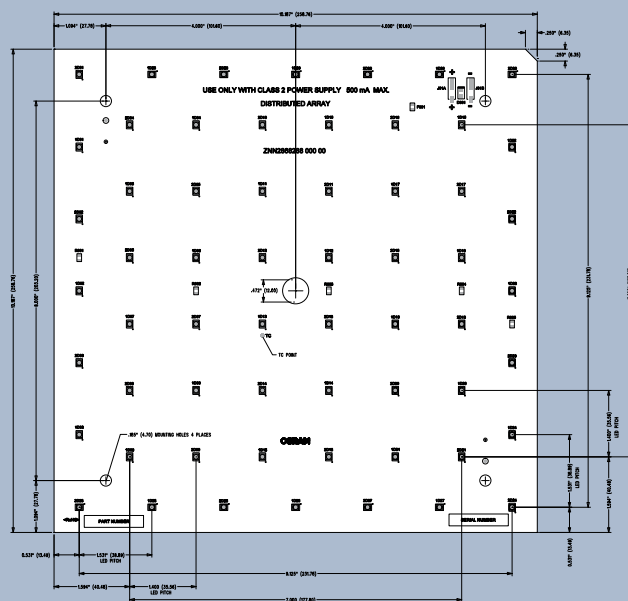
Assembly Diagram

36 LED 8" x 8"



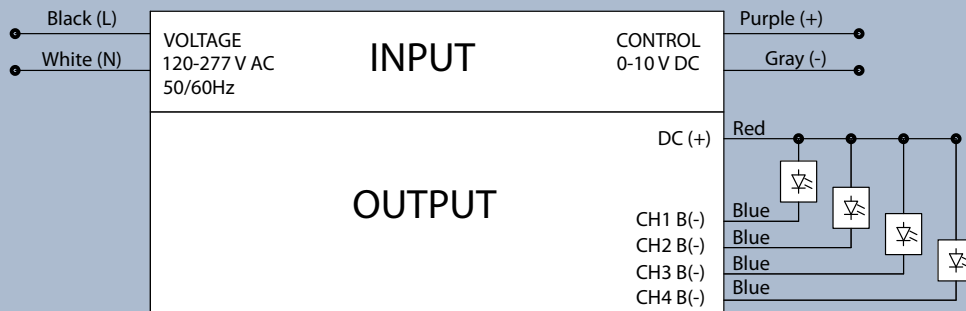
Dimensions in inches (mm)

60 LED 10" x 10"

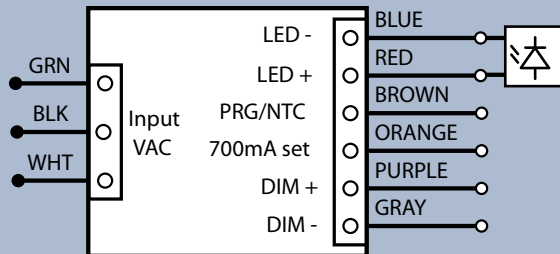


Wiring Diagram

OPTOTRONIC® OTXX 4-Channel Power Supply



OPTOTRONIC OTXX 1-Channel Power Supply



Connect 700mA set (ORANGE) to LED - (BLUE)
to set output current to 700 mA

Safety Information

WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION.

TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR LIGHT ENGINES.

Failure to install the power supplies and/or LED light engines in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriters Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction.

1. The LED module itself and all its components shall not be subjected to mechanical stress and assembly must not damage or destroy conducting paths on the circuit board.
2. Observe correct electrical polarity, incorrect polarity may destroy the module. (Depending on the product, incorrect polarity may lead to emission of red or no light.)
3. Ensure the power supply is of adequate power to operate the total load.
4. Electrostatic Discharge (ESD) precautions shall be incorporated when handling or installing the module. (For more information, reference document # LED093 ESD Protection for LED Systems.)
5. Installation of LED modules shall be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
6. Modules may be hot to the touch. Use caution when handling.
7. Damage by corrosion and improper heat sinking will not be honored as a materials defect claim. It is the user's responsibility to ensure adequate heat sink and protection against corrosive agents such as moisture, condensation and other harmful elements.

Assembly Information

1. The Distributed Array Gen II boards needs no supplemental heat sinking when the temperature at the Tc Point is maintained at or below 85°C. Service life when the Tc temperature is maintained is >60,000 hours/L₇₀. When the environment is unknown, the Distributed Array products should be installed in luminaires designed to provide proper thermal management to avoid premature failure of the product and to obtain expected service life. Service life (i.e. lumen depreciation) is primarily a function of LED temperature, which is to be monitored on the circuit board at the designated "Tc Point."
2. Due to variations in fixture designs, there is no exact installation prescription for obtaining an appropriate Tc Point temperature. In general, the Distributed Array Gen II modules should be adhered to a flat metal surface which has enough surface area to transfer the heat from the LEDs to the surrounding air. In some cases, the metal surface can be part of the mass of the fixture itself.
3. It is important to understand that once heat is transferred to a "heat sink" that heat must still be allowed to escape the "system." A heat sink transferring the thermal energy to the inside of an enclosed cavity may ultimately be of little use.
4. Tc Point temperature measurements should be taken with the modules operating at thermal equilibrium in potential fixture designs installed in an appropriate environment. Tc Point temperature can be measured with a standard thermocouple in direct contact with the circuit board at the Tc Point or with ML4C Series non-reversible OMEGALABELS (www.omega.com) or equivalent.
5. Recommended input and board to board connections: Use 18 AWG solid core or stranded wire with a strip length of 0.24 - 0.28 in (6 - 7mm). Use direct push-in of solid conductors and push button for connection of stranded conductors and for removal of all wire types.

Warranty

OSRAM LED products are covered by our LED Module, OPTOTRONIC® Power Supply or Control warranty.

The Distributed Array Gen II LED Module Portfolio is covered under warranty as long as the temperature at the Tc point does not exceed 85°C; exceeding this temperature will void all warranties.

For additional information or to download the warranty registration form, refer to the latest version of the warranty (LED089) available in the Literature section of www.sylvania.com/LED.

Module Warranty: 3 years

System Warranty: 5 years

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