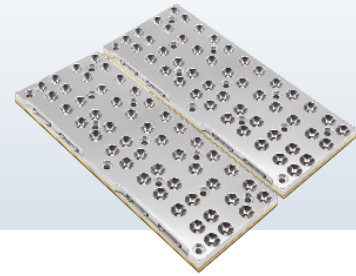


LE-A96

Light Engine

Data Sheet



Product Overview

The LE-A96 series is the ideal solution for large-area UV curing needs, offering medium intensity and uniform light distribution. The LE-A96 consists of 96 SMD UV-LEDs on two metal core PCBs with 8 connectors, 4 thermistors, and a reflector assembled on each PCB. Our innovative design allows for independent control of each group of LEDs and thermistor, resulting in accurate temperature control and even distribution of light. This makes the LE-A96 perfect for integration into UV flood curing systems or any application requiring a large curing area.

The light engine is available in 3 standard wavelengths: 365, 385, 405 nm.

Specifications

Parameter	Symbol	Condition	TYP Value	Unit
Number of LEDs	N	-	96	-
Operating Ambient Temperature	T_{amb}	0-65%, non-condensing	10-40	°C
Storage Temperature	T_{stg}	Unbiased, 10-80% RH, non-condensing	-40-100	°C
Operating System Temperature	T_{opr}	I_{max}	< 69	°C
Maximum Current	I_{max}	T_{amb}, T_{opr}	10.4	A
Maximum Voltage	V_F	I_{max}, T_{opr}	45	V
Emitting Window	L x W	-	160 x 115	mm ²
Total Radiant Flux	P_O	I=14A, T_{LED} =25°C, 50% RH, λ =365nm		W
		I=14A, T_{LED} =25°C, 50% RH, λ =385nm		
		I=14A, T_{LED} =25°C, 50% RH, λ =405nm		
Irradiance ¹	E	I=14A, T_{LED} =25°C, 50% RH, λ =365nm	0.6	W/cm ²
		I=14A, T_{LED} =25°C, 50% RH, λ =385nm	0.85	
		I=14A, T_{LED} =25°C, 50% RH, λ =405nm	0.8	
Uniformity ²	U	I_{max}, T_{LED} =25°C, 50% RH	28.7	%
Thermistor Impedance ³	R_{TH}	T_{opr} =25°C	10	kΩ
B Constant	$B_{25/50}$	-	3900	K

¹Irradiance is measured with the following parameters:

- I. Working distance: 25 mm
- II. Measurement location: At center of the emitting window size
- III. Using ACCU-CAL™ 50-LED in 'Flood-Peak Intensity' mode

²Uniformity is measured with the following parameters

- I. Working distance: 25 mm
- II. Measurement location: At the 4 corners and center of the
- III. Calculated using: $(E_{max}-E_{min})/(E_{max}+E_{min})$
- IV. Using ACCU-CAL™ 50-LED in 'Flood-Peak Intensity' mode
- V. Performed with light engine is attached on the thermal interface layer and heatsink

³Thermistor is connected on each connector

Features

- Surface mount technology
- High thermal conductivity metal core-based PCBs
- 160 mm x 115 mm emitting area
- 96 LEDs
- 8 connectors
- 8 NTC thermistors

Typical Applications

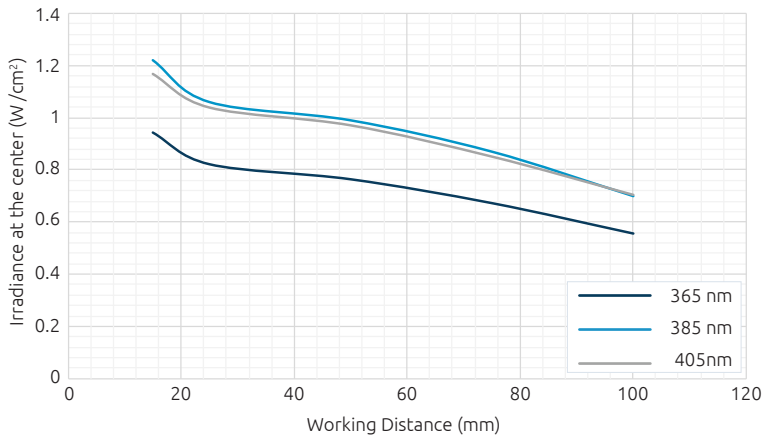
- UV Curing
- Printing



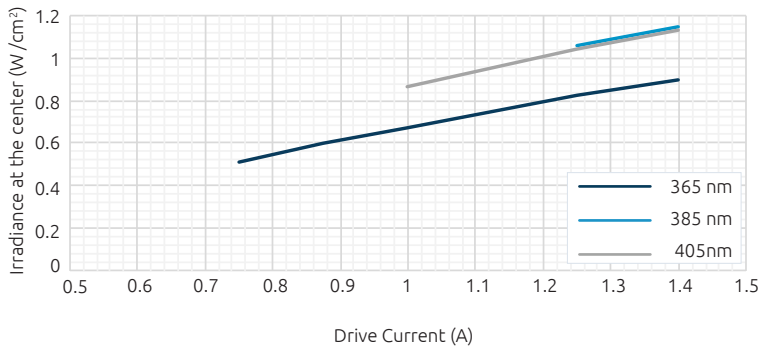
ALEO LE-96 Light Engine

Performance Charts

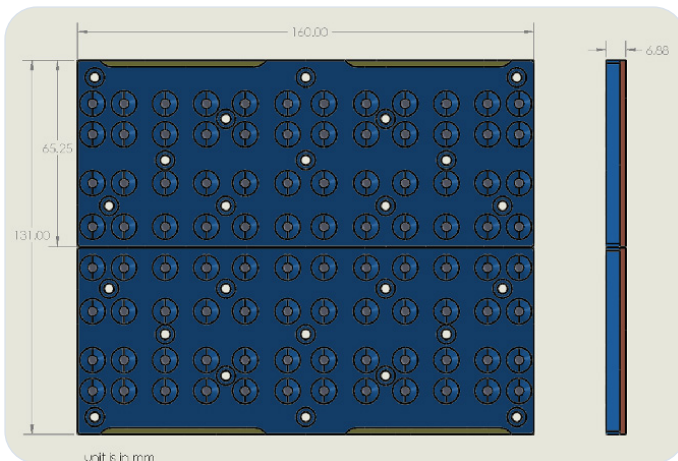
Irradiance vs Working Distance



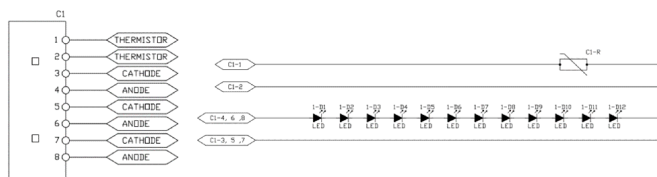
Irradiance vs Distance at 25 mm Working Distance



Dimensions



Layout of Light Engine



Pin Assignment and Schematic of LED Configuration

Please note that most applications are unique. ALEO does not warrant the fitness of the product for the intended application. Any warranty applicable to the product, its application and use is strictly limited to that contained in ALEO standard Conditions of Sale published on our website. ALEO recommends that any intended application be evaluated and tested by the user to ensure that desired performance criteria are satisfied. ALEO is willing to assist users in their performance testing and evaluation. APDS02



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