



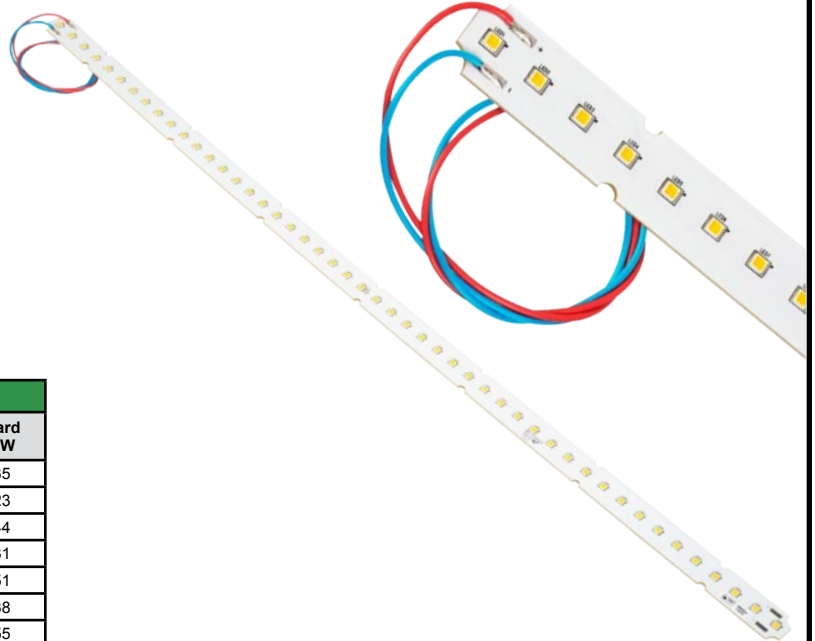
# LED Light Engine, 23" Linear Module

Constant-Current DC Array, 6 LED Series x 8 Parallel Strings  
 Engineered by Norlux  
 48 Nichia LEDs  
 5 yr. Warranty

## Specifications

<b>Driver Type:</b>	<b>Constant-Current</b>
Drive Current:	700mA Nominal
Nom. Forward Voltage:	17.9V
Total Board Power:	12.5W Nominal
Life:	50,000 Hrs, 70% lumen maint. @ Ta max 50°C, used as specified
Max Junction Temp:	90°C
Max Test Point Temp:	80°C
Operating Temp:	-40°C to +60°C Ambient
Storage Temp:	-40°C to +80°C
Viewing Angle (FWHM):	120° Lambertian distribution
CRI:	83 typical

- Designed for easy use in standard luminaires
- Tight LED pitch eliminates pixelization, no complex lens or optics required
- Color: ¼ ANSI Binning, 3 Step MacAdam Ellipse
- Suggested Applications: Troffers, Troffer Retrofits, Linear Recessed and Flush-mount
- Customizable: Engines can be modified to your application. Contact us.

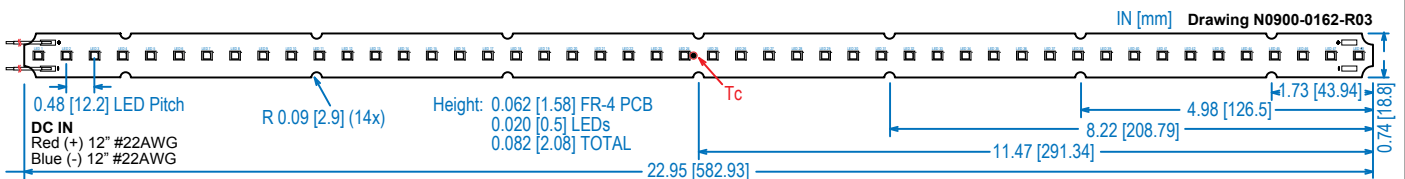


23 Inch Linear DC LED Module					
Model Number	Color Temp (K)	Total Current (mA)	Total Board Power (W)	Lumens (± 15%)	Board LPW
98026	2700	350	5.9	797	135
		700	12.5	1,537	123
98003	3000	350	5.9	850	144
		700	12.5	1,639	131
98004	3500	350	5.9	893	151
		700	12.5	1,720	138
98005	4000	350	5.9	916	155
		700	12.5	1,765	141
98028	5000	350	5.9	944	160
		700	12.5	1,820	146

Connectivity Options	
Suffix	Connection
(blank)	12 IN, #22 AWG Stranded Leads
-01	No Leads
-02	Push-in Connectors

For Poke-In Connectors, use #24-18 AWG stranded or solid wire

## Dimensions:



★ MADE IN USA ★  
Of Imported And Domestic Components

Specifications subject to change without notice. Trademarks are property of their respective owners.

Rev 6-16-15



# 23" Linear Std. DC LED Light Engine Module

SSL Solutions Faster Than The Speed Of Light®

## CIE Chromaticity Coordinates:

### 2700K

3 Step Macadams Ellipse

X	Y
0.4576	0.4183
0.4698	0.4212
0.4478	0.3999
0.4591	0.4025

### 3000K

3 Step Macadams Ellipse

X	Y
0.4325	0.4101
0.4452	0.4146
0.4244	0.3923
0.4362	0.3965

### 3500K

3 Step Macadams Ellipse

X	Y
0.4045	0.3975
0.4189	0.4044
0.3989	0.3819
0.412	0.3875

### 4000K

3 Step Macadams Ellipse

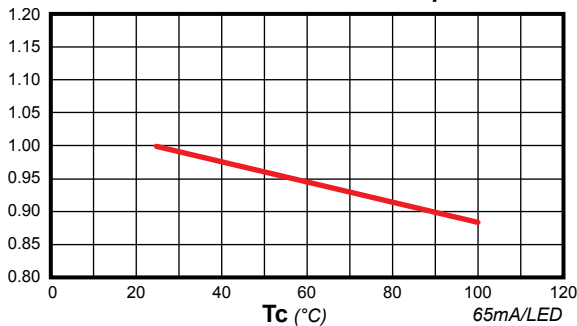
X	Y
0.3783	0.3836
0.3909	0.3906
0.3746	0.3687
0.3864	0.3757

### 5000K

3 Step Macadams Ellipse

X	Y
0.3408	0.3461
0.3485	0.3520
0.3416	0.3585
0.3499	0.3644

Relative Luminous Flux / Tc Temperature



## Compatible TRP Drivers:

The drivers listed here are all compatible with this module. Choose the best driver for your application.

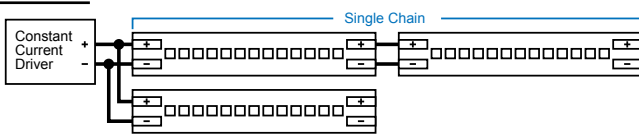
- LED12W-24-C0350
- LED12W-24-C0500
- LED17W-24-C0700
- LED20W-028-C0700
- LED20W-028-C0700-D
- LED20W-028-C0700-LE
- LED20W-028-C0700-TE
- LED20W-48-C0350
- LED20W-48-C0350-D
- LED20W-43-C0460
- LED20W-43-C0460-D
- LED20W-40-C0500
- LED20W-40-C0500-D
- LED25W-36-C0700
- LED25W-36-C0700-D
- LED25W-36-C0700-HL-B
- LED25W-36-C0700-HL-S
- LED25W-36-C0700-HL-BD
- LED25W-36-C0700-HL-SD
- LED25W-040-C0500
- LED25W-040-C0500-D
- LED25W-040-C0620
- LED25W-040-C0620-D
- LED30W-042-C0700
- LED30W-042-C0700-D

## Series/Parallel Configurations

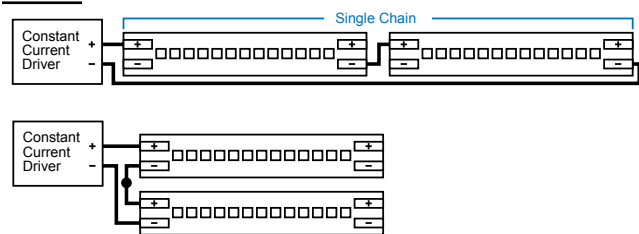
**Parallel:** The positive and negative of one board is connected to the respective positive and negative of the next. Current adds, so the supply must be 2x the current for 2 boards, for example.

**Series:** The negative of one board is connected to the positive of the next. Voltage adds, so the supply must be 2x the voltage for 2 boards.

### Parallel



### Series



### Step Dimming:

This Light Engine can be step-dimmed, with a recommended TRP dimmable driver and SD series step-dimming module. See the SD2 or SD3 data sheet for wiring information.

## Maximum Run Lengths

The max number of boards wired in a chain (**parallel or series**) is limited by the max current rating of the first board wired to the driver. The sum of the board currents, in the chain, funnels through the first board. Multiple chains can connect directly to the power supply in parallel. See table for max chain length.

Product	Series/Parallel	Max Allowable Boards	
		High Current (Nom)	Low Current
23" Troffer	Parallel	5	11

## Mounting Notes

The LED assembly is supplied with mounting holes, per the dimensional drawing. It is important to mount the board in such a way as to maintain the Tc point below the max. The steady state thermals in application will dictate if the board needs to be mounted directly to metallic housing and/or include a thermal pad. For example fully enclosed recessed fixture will require better thermal mounting than an open air pendant.

## Thermal Application Notes

**This board requires additional heat sinking to run above 55°C ambient at nominal specifications.** Heat sink is also required when operated above specified drive currents.

## Maximum Current

**Max Current: 1440mA**

**Voltage at max current: 20V, Power at max current: 28.8W**

The total maximum current reflects the LED maximum forward current only, without considering thermal needs. Driving the LEDs this hard will likely violate their thermal limits, depending on the application. **Tc point must remain at or below the max temperature, or the warranty will be voided.** Temperature is directly correlated to LED current.

## Static Sensitive Device

Handle only at static-safe work stations.

## Packaging

50 per box standard.