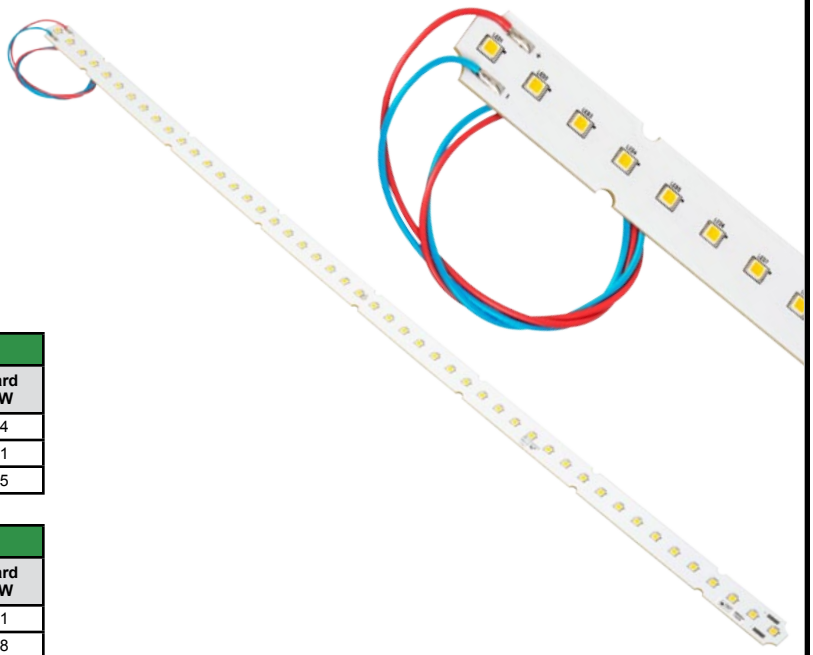
LED Light Engine, 23” Troffer Module

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

Specifications

Driver Type:	**Constant-Current**
Drive Current:	700mA Nominal
Nom. Forward Voltage:	17.9V
Total Board Power:	12.5W Nominal
Life:	50,000 Hrs, 70% lumen maint. @ Ta max 50ºC, used as specified
Max Junction Temp:	90°C
Max Test Point Temp:	80°C
Operating Temp:	-40ºC to +60ºC Ambient
Storage Temp:	-40ºC to +80ºC
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



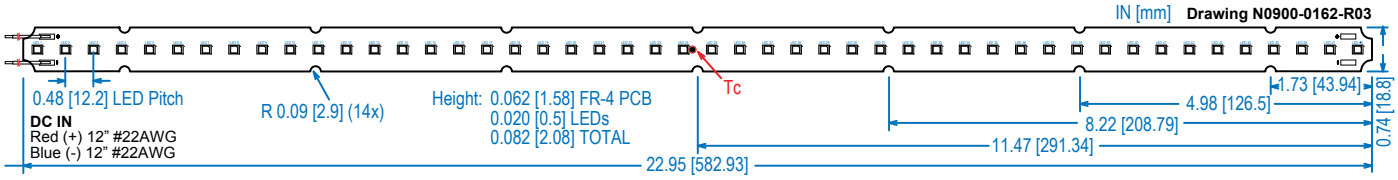
23 Inch Linear DC LED Module @ 350mA					
Model Number	**Total Board Power *(W)***	**Total Current *(mA)***	**Color Temp *(K)***	**Lumens *(± 15%)***	**Board LPW**
98003	5.9	350	3000	850	144
98004	5.9	350	3500	893	151
98005	5.9	350	4000	916	155

23 Inch Linear DC LED Module @ 700mA					
Model Number	**Total Board Power *(W)***	**Total Current *(mA)***	**Color Temp *(K)***	**Lumens *(± 15%)***	**Board LPW**
98003	12.5	700	3000	1,639	131
98004	12.5	700	3500	1,720	138
98005	12.5	700	4000	1,765	141

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

Rev 8-20-14

CIE Chromaticity Coordinates:

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

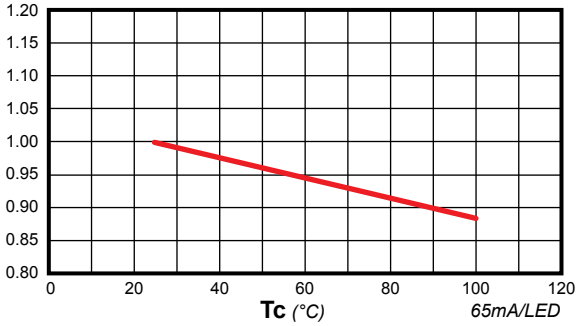
3 Step Macadams Ellipse

X	Y
0.3783	0.3836
0.3909	0.3906
0.3746	0.3687
0.3864	0.3757

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.

Relative Luminous Flux / Tc Temperature



Suggested TRP Drivers:

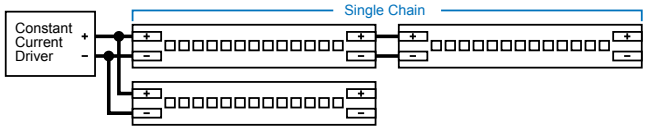
- LED12W-24-C0350
- LED12W-24-C0500
- LED17W-24-C0700
- LED20W-028-C0700
- LED20W-028-C0700-D
- LED20W-028-C0700-LE
- LED20W-028-C0700-TE
- LED20W-48-C0350
- LED20W-48-C0350-D
- LED20W-43-C0460
- LED20W-43-C0460-D
- LED20W-40-C0500
- LED20W-40-C0500-D
- LED25W-36-C0700
- LED25W-36-C0700-D
- LED25W-36-C0700-HL-B
- 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

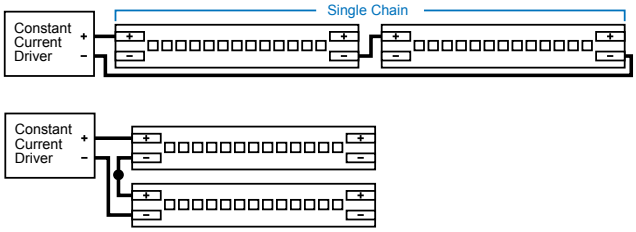
Parallel: The positive and negative of one board is connected to the respective positive and negative of the next. Current adds, so the supply must be 2x the current for 2 boards, for example.

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



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

Thermal Application Notes

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

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.

Static Sensitive Device

Handle only at static-safe work stations.

Packaging

50 per box standard.