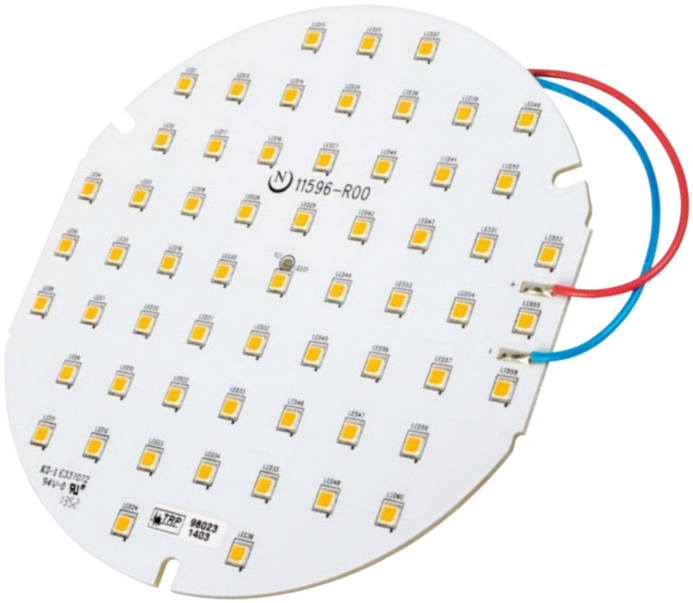
LED Light Engine, 4.7” Round Module

Constant-Current DC Array, 12 LED Series x 5 Parallel Strings
Engineered by Norlux
60 Nichia LEDs
5 yr. Warranty

Specifications

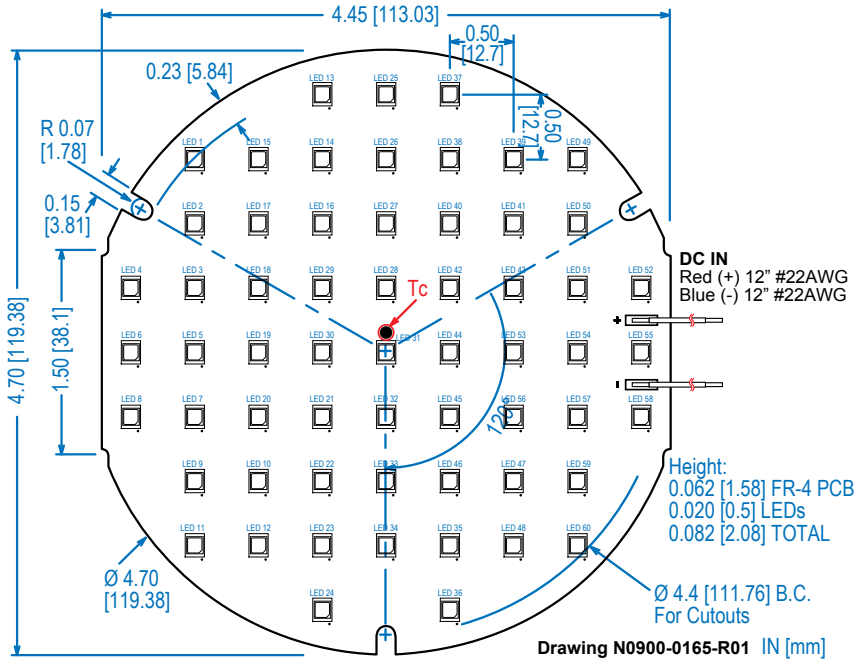
Driver Type:	**Constant-Current**
Drive Current:	450mA Nominal
Nom. Forward Voltage:	35.9V
Total Board Power:	16.2W Nominal
Life:	50,000 Hrs, 70% lumen maint. @ Ta max 40ºC, used as specified
Max Junction Temp:	90°C
Max Test Point Temp:	80°C
Operating Temp:	-40ºC to +60ºC Ambient
Storage Temp:	-40ºC 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: Commercial or Residential Downlights
- Customizable: Engines can be modified to your application. Contact us.



4.7 Inch Round DC LED Module @ 450mA					
Model Number	**Total Board Power** *(W)*	**Total Current** *(mA)*	**Color Temp** *(K)*	**Lumens** *(± 15%)*	**Board LPW**
98021	16.2	450	2700	1,970	122
98022	16.2	450	3000	2,100	130
98023	16.2	450	3500	2,200	136
98024	16.2	450	4000	2,265	140
98027	16.2	450	5000	2,335	144

Dimensions:



Drawing N0900-0165-R01 IN [mm]

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

★MADE IN USA★
Of Imported And Domestic Components

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

Rev 5-14-15

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

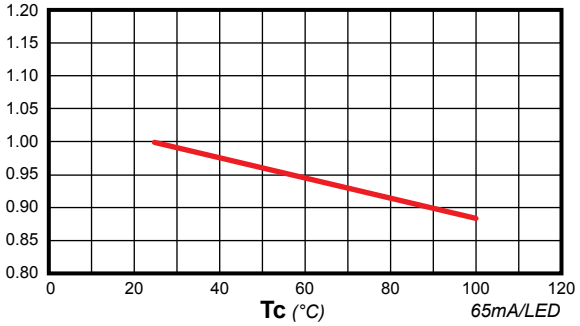
4000K
3 Step Macadams Ellipse

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



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.

Compatible TRP Drivers:

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

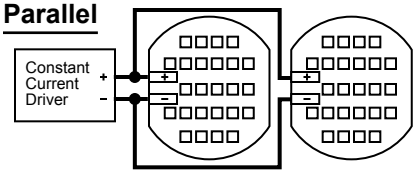
- LED12W-48-C0250
- LED20W-40-C0350-LE
- LED20W-40-C0350-TE
- LED20W-57-C0350
- LED20W-57-C0350-D
- LDC25W-048-C0450
- LED25W-56-C0450
- LED25W-56-C0450-D
- LED25W-56-C0450-HL-B
- LED25W-56-C0450-HL-S
- LED25W-56-C0450-HL-BD
- LED25W-56-C0450-HL-SD
- LED25W-072-C0350
- LED25W-072-C0350-D
- LED25W-062-C0400
- LED25W-062-C0400-D
- LED25W-072-C0350-LE
- LED25W-072-C0350-TE
- LEDDC25W-072-C0350
- LEDDC25W-072-C0350-D
- LED30W-085-C0350
- LED30W-085-C0350-D
- LED30W-075-C0400
- LED30W-075-C0400-D
- LED30W-066-C0450
- LED30W-066-C0450-D

Series/Parallel Configurations

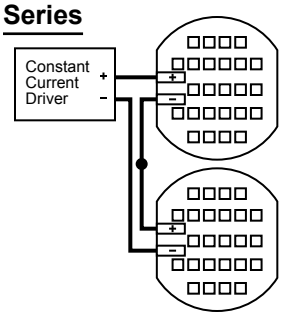
Parallel: The positive and negative of one board is connected to the respective positive and negative of the next. Current adds, so the supply must be 2x the current for 2 boards.

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 **(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
4.7” Round	Series	7	N/A

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 45ºC ambient at nominal specifications. Heat sink is also required when operated above specified drive currents.

Maximum Current

Max Current: 900mA
Voltage at max current: 40V, Power at max current: 36W
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.