

TMU035003ARXXXA

Constant Current LED Rectangle Module

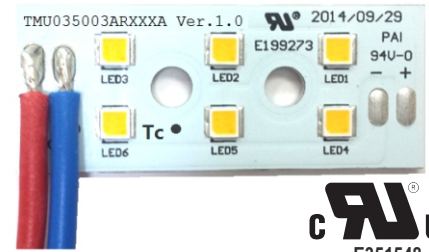
- High Density, high brightness chip array for use in Class 2 applications
- Constant current for maximum efficacy
- Available in standard CCT's
- Dimmable when used with a dimmable driver
- Suitable for DLC and Energy Star compliance luminaires
- 80 CRI standard and 90 CRI available

General Ratings

Max Lumen Output @ Max Current	385 lumens at 4000K / 80 CRI*
Max Current Input	350 mA
Nominal DC Power Consumption @ Max Current	3.3W
Nominal Operating Voltage @ Max Current	9.3V ± 1.7V
Beam Angle	120°
CRI	80, 90
Operating Ambient Temperature Range (Ta)	-35 to +40°C / -31 to +104°F
Maximum Module Case Temperature (Tc)	L70 = 90°C (Ts = 95°C) / L90 = 60°C (Ts = 65°C)
Estimated Lumen Maintenance (L70)	L70 = >60,000hrs / L90 = >36,000hrs
Color Consistency	Binning per ANSI C78.377-2008; 7 SDCM
Overall Size	1.7" x 0.7" x 0.17"H
Material / Weight	MCPCB / 9g
Maximum Screw Installation Torque	35 inch - ounces
Safety/Compliance	cURus (File # E351548) Class 2 Lighting System RoHS Compliant
Warranty	5 years with suitable Fulham LED Drivers

* At Tc mod = 25°C





TMU035003ARXXXX

Part Numbering Matrix

T M U 035 003 A R 8 27 A

CRI
8* = 80
9 = 90

Color Temperature
27 = 2700K
30* = 3000K
35 = 3500K
40* = 4000K
50 = 5000K

*Indicates standard module options. All others are built to order.

Electrical Specifications

LED Module Part Number	Number of LED	Input Current	Abs. Max Forward Voltage	Nom. Forward Voltage	Nom. Rated Power
TMU035003ARxxxA	6	350mA**	11 VDC***	9.3VDC	3.3W

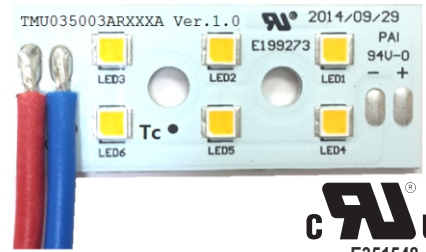
** Indicates maximum rated current. Modules may be operated at a current less than or equal to this value.

*** Absolute maximum forward voltage was not used in calculating nominal rated power. Data is provided to assist in selecting proper LED driver.

Electrical and Optical Specifications

LED Module Part Number	Color Temperature	Nominal Luminous Flux @ 350mA / 90 CRI	Nominal Luminous Flux @ 350mA / 80 CRI	Efficacy @80 CRI
TMU035003ARx27A	2700K	265 lumens	335 lumens	101 lm/W
TMU035003ARx30A	3000K	285 lumens	355 lumens	107 lm/W
TMU035003ARx35A	3500K	300 lumens	370 lumens	112 lm/W
TMU035003ARx40A	4000K	305 lumens	385 lumens	116 lm/W
TMU035003ARx50A	5000K	330 lumens	410 lumens	124 lm/W

- 1) Electrical and optical specifications are based on Tc mod = 25°C.
- 2) Standard lumen output and efficacy is calculated for standard options. Reference CCT vs Lumen Output chart for lumen ratio calculation.
- 3) Specifications are subject to change without notice.

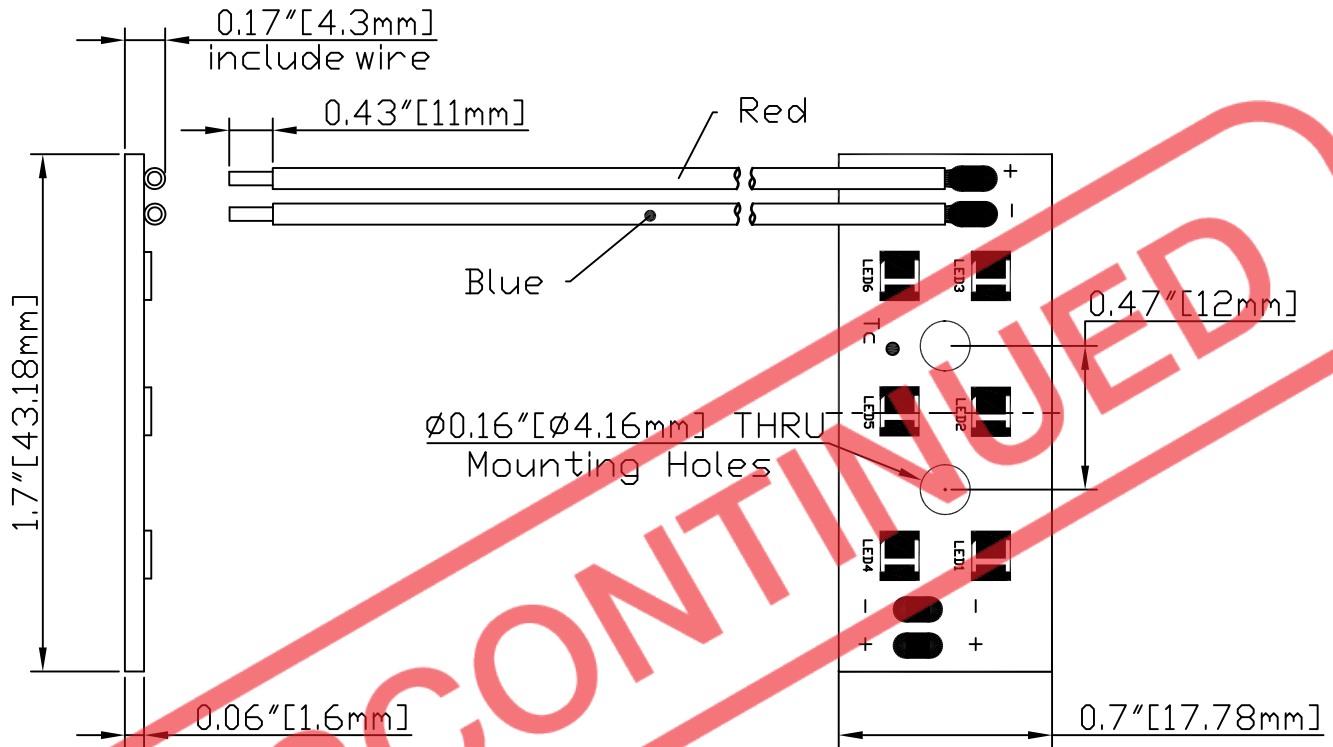


TMU035003ARXXXA

Mechanical Drawings

Wire Length - Inches

DC Input - Red (+) / Blue (-)	8
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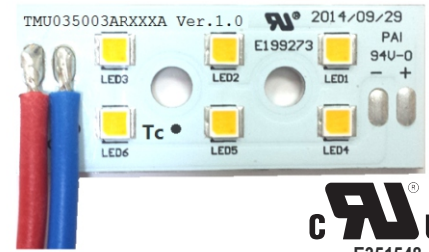


Thermal Specifications

	LED Module
Storage Temperature Range	-35 to 100°C
Operating Ambient Temperature Range	-35 to 40°C
Maximum Case Temperature (Tc)	L70 = 90°C (Ts = 95°C) / L90 = 60°C (Ts = 65°C)



Tc located on module



TMU035003ARXXXA

Fastening Notes

- If fastening by screw hole, use any screw with diameter less than 0.161 in (4.1mm). Use all available screw holes to ensure good contact between back side of module and mounting surface. Refer to max specified torque for installation. Suggested screw sizes: #6 or M4 Pan Head screw.
- If fastening using double-sided tape, start with clean, dust-free surface. Peel backing and place LED module on mounting surface. Firmly press down on the module to ensure good adherence. Follow the double-side tape manufacturer's installation instructions.

Environmental Rating

- Modules are rated for dry locations, unless option for conformal coating is requested.
- Conformal coating is acrylic based and rated for Environment and Moisture Protection per IPC-CC-830.

Electrostatic Sensitive Product (ESD)

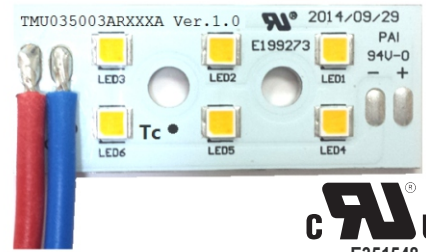
- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be ground and direct contact with LED should be avoided.

Thermal Management

- Proper thermal management should be employed to ensure life and reliability of product.
- Use of thermal grease, paste, pad, or other material interface is highly recommended.

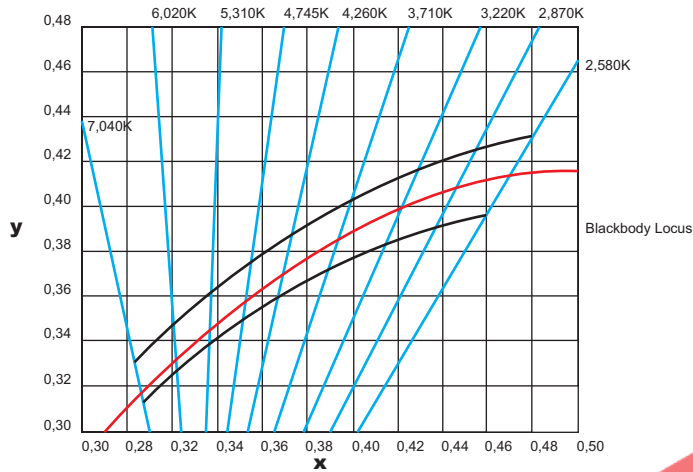
Polarity Notes

- Modules are polarity sensitive.
- Ensure that "positive" from LED Driver is connected to "positive" of LED modules and that "negative" from LED Driver is connected to "negative" of LED modules.
- Polarities of modules are marked with "+" for positive and "-" for negative.



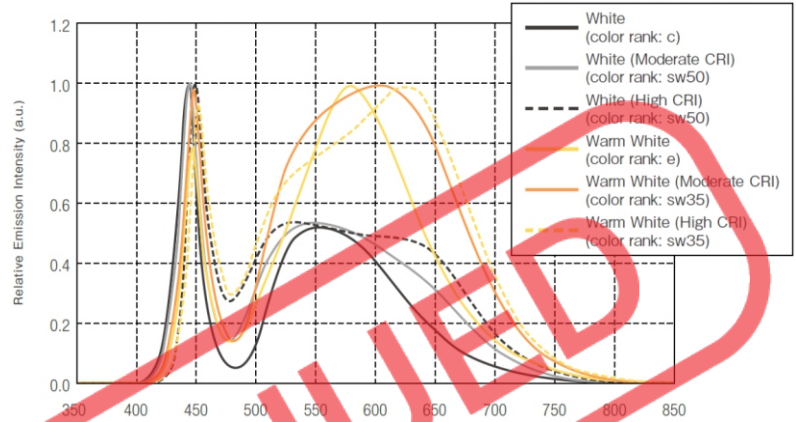
TMU035003ARXXXX

Color and Binning



Ref. Nichia
Chromaticity Diagram for ANSI bins
For reference only. For more detailed info, contact factory.

Optical Spectrum***



*** Value varies depending on product type and color rank
Ref. Nichia
LED Catalogue 2013
For reference only. For more detailed info, contact factory.

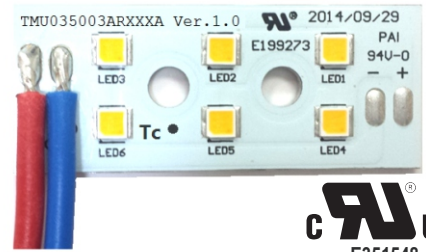
Thermal De-Rating

Ambient Temperature (Ta)	Thermal De-rating Multiplier
25°C	1
30°C	0.991
35°C	0.989
40°C	0.980
45°C	0.975
50°C	0.970
55°C	0.960
60°C	0.950

Ref. Nichia
LED757 Spec Sheet
For reference only. For more detailed info, contact factory.

CCT vs Luminous Flux

CCT	Luminous Flux Ratio
2700K	0.87
3000K	0.93
3500K	0.96
4000K	1.00
5000K	1.07



TMU035003ARXXXA

Compatible Fulham LED Drivers

Fulham Part Number	Driver Description	# of Modules/Driver	Wiring Diagram
TC11200350-6C	350 mA, 6W CC Driver, 120V AC Input	1	A
TC12300350-6L	350 mA, 6W CC Driver, 230V AC Input	1	A
TC11200350-15C	350 mA, 15W CC Driver, 120V AC Input	3, 4	B
TC12300350-12L	350 mA, 12W CC Driver, 230V AC Input	1, 2, 3	A, B
TC12300700-12L	700 mA, 12W CC Driver, 230V AC Input	2	C
TCD11200700-9C	700 mA, 9W CC Driver, 120V AC Input, Triac Dimmable	2	C
T1T11200700-9C	700 mA, 9W CC Driver, 120V AC Input, Triac Dimmable	2	C
TC11200700-18C	700 mA, 18W CC Driver, 120V AC Input	4 (2s2p)	D
T1T11200700-18C	700 mA, 18W CC Driver, 120V AC Input, Triac Dimmable	4 (2s2p)	D
TCD11200650-18C	650 mA, 18W CC Driver, 120V AC Input, Triac Dimmable	4 (2s2p)	D



NOTE:

1. Subject to rated loading conditions.
2. Modules are polarity sensitive. Ensure that "positive" from LED Driver is connected to "positive" of LED modules and that "negative" from LED Driver is connected to "negative" of LED modules.
3. List is subject to change without notice.

Wiring Diagram

