

TNM24V120ACXXA

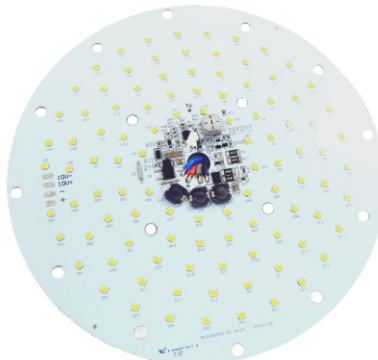
Hybrid Constant Voltage/Constant Current LED Round Module

- High Density, high brightness chip array for use in Non-Class 2 applications
- Hybrid Constant Voltage/Constant Current for optimum efficacy
- Integrated Thermal Management for safe operation
- Adjustable power setting via potentiometer
- 0-10V Dimmable
- Available in standard CCT's
- High output applications: Highbay, Lowbay, Parking Light
- No Re-Strike delay of HID
- Conformal coating standard; MCPCB

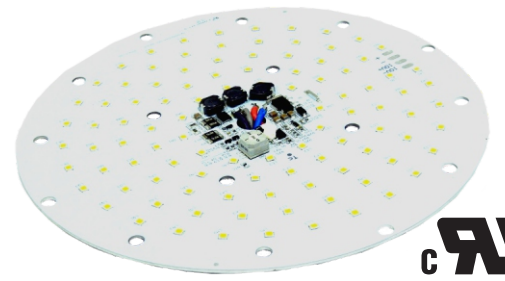
General Ratings

Initial Lumens Output @ Max Power	13,250 lumens at 5000K / 80 CRI*
Max Input Current	5.3A
Nominal DC Power Consumption @ Max Power	120WDC
Input Voltage	24VDC ± 5%
Dimming Controller Type	0-10V
Dimming Range	100-10%
Adjustable Power Settings	45W, 55W, 80W, 120W
Beam Angle	120°
CRI	80 standard, 90 available
Operating Ambient Temperature Range (Ta)	-30 to +60°C
Maximum Case Temperature (Tc)	+85°C (Ts = 90°C)
Estimated Lumen Maintenance (L70)	50,000 hours at max Tc-mod
Color Consistency	Binning per ANSI C78.377-2008; 7 SDCM
Overall Size	8" Ø x 0.4" (H)
Material / Weight	Aluminum Clad / 190g
Maximum Screw Installation Torque	60 inch - ounces
Thermal Management	Integrated thermal feedback system
Safety/Compliance	cURus (File # E351548, TNM24V120XXXXXX) Non-Class 2 Lighting System RoHS Compliant
Warranty	5 years with suitable Fulham LED Drivers

* At Tc mod = 25°C



Driver not included



TNM24V120ACXXA

Part Numbering Matrix

TNM 24V 120 AC 8 40 A

CRI	Color Temperature
8* = 80	27 = 2700K
9 = 90	30* = 3000K
	35 = 3500K
	40* = 4000K
	50* = 5000K

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

Electrical and Optical Specifications**

LED Module Part Number	Color Temperature	Input Module Voltage	Max Input Module Current	Nom. Module Rated Power***	Initial Luminous Flux @ 80 CRI****	Efficacy
TNM24V120AC850A	5000K	24VDC	5.3A	120W DC	13,250 lumens	110 lm/W
TNM24V120AC840A	4000K				12,400 lumens	103 lm/W
TNM24V120AC835A	3500K				11,900 lumens	99 lm/W
TNM24V120AC830A	3000K				11,500 lumens	95 lm/W
TNM24V120AC827A	2700K				10,750 lumens	89 lm/W

** Performance based on $T_{c mod} = 25^{\circ}C$. See thermal de-rating chart for higher temperature operation.

*** Reference Adjustable Power Settings table to calculate lumen output at lower power levels.

**** Lumen reduction by 33% going from 80 to 90 CRI.

Note: Specifications are subject to change without notice.

Thermal Specifications

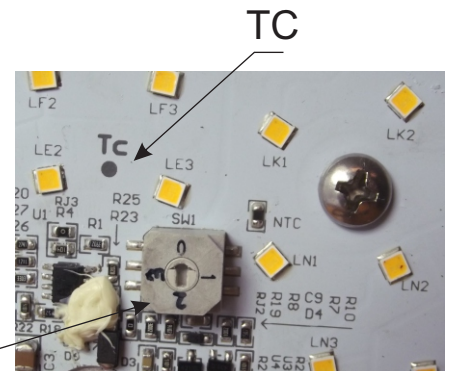
	Module
Storage Temperature Range	-30 to 100°C
Luminaire Ambient Temperature Range	-30 to +60°C
Maximum Case Temperature	85°

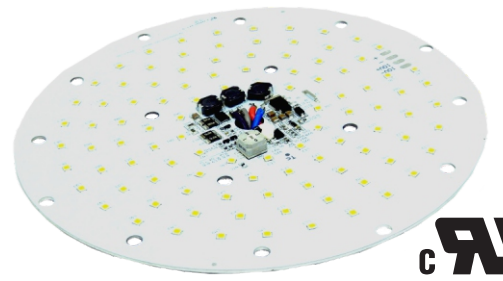
Adjustable Power Settings

Position	Power Rating	Lumen Multiplier
0	120W	1
1	80W	0.75
2	55W	0.56
3	45W	0.45

Arrow indicates power level setting

Do NOT change setting while Unit is powered on.



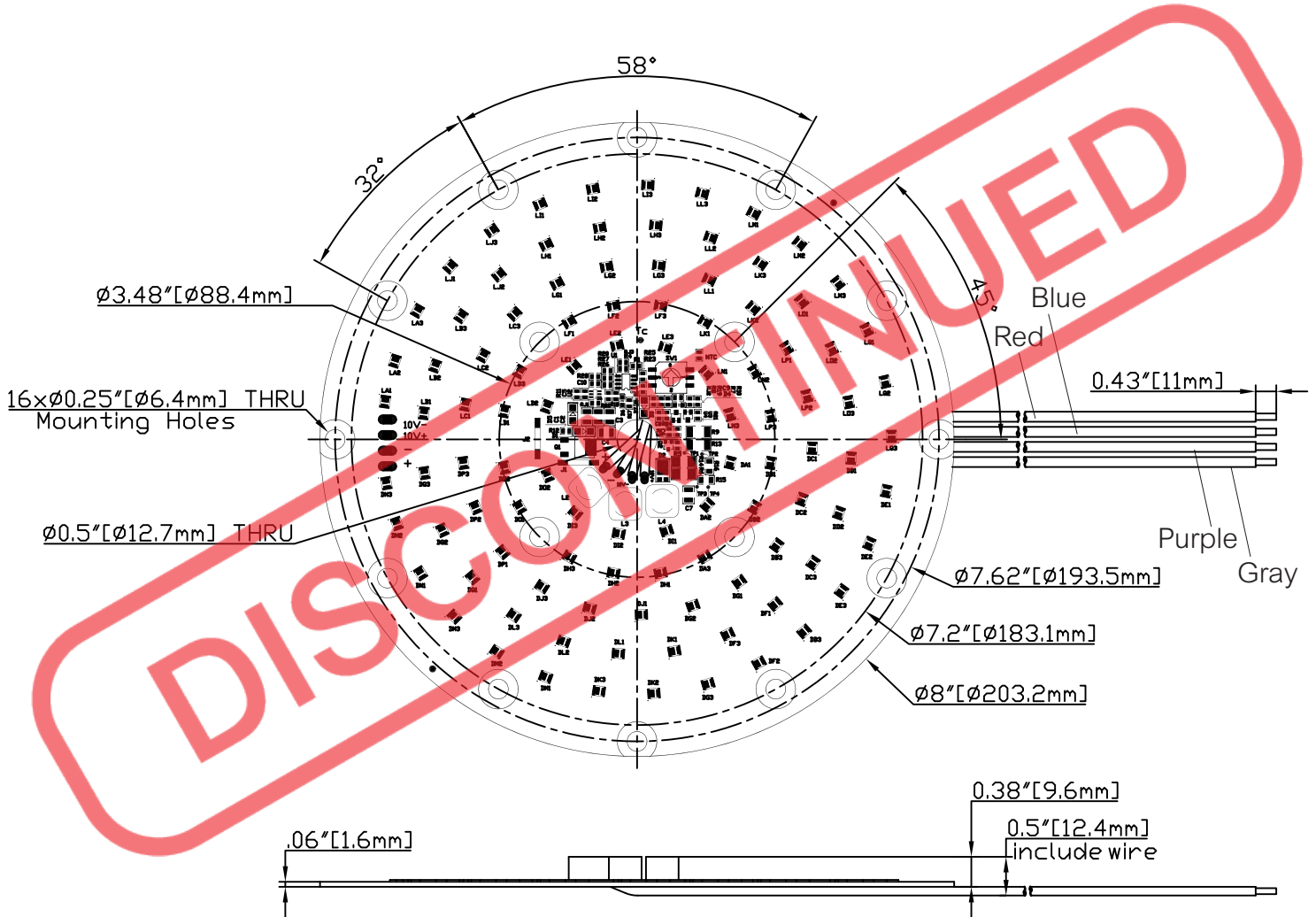


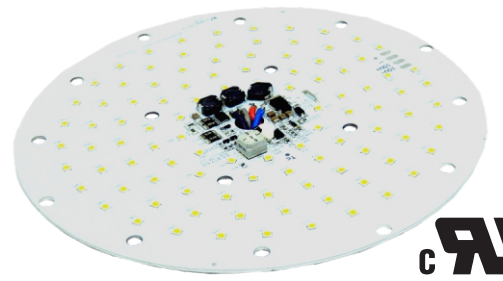
TNM24V120ACXXA

Mechanical Drawings

Wire Length - Inches

DC Input - Red (+) / Blue (-)	24
0-10V Dimming - Purple (10V+) / Gray (10V-)	24





TNM24V120ACXXXA

Fastening Notes

- If fastening by screw hole, use any screw with diameter less than 0.24 in (6.0mm). 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: #10 or M5 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)

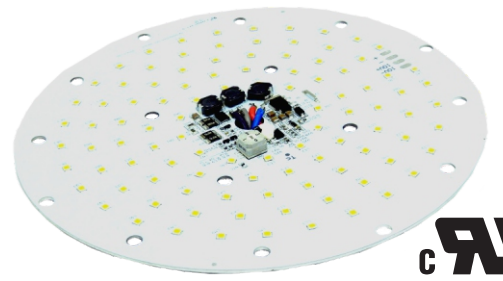
- Fulham LED products should be handled with proper measures to protect against any potential ESD damage.
- When servicing, personnel should be ground and direct contact with LED should be avoided.

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.

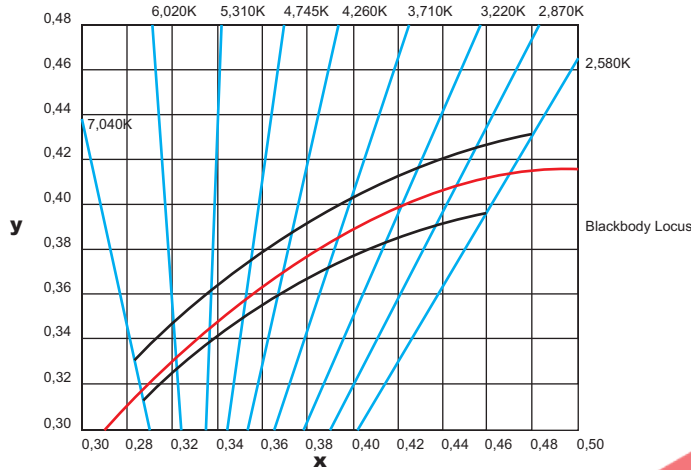
Polarity Notes

- 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.



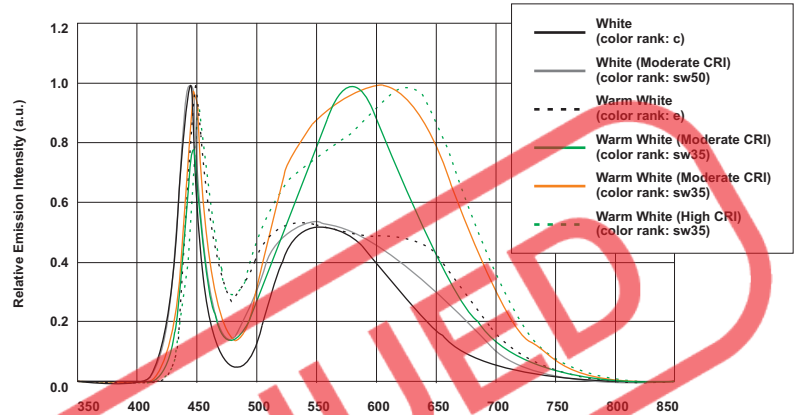
TNM24V120ACXXXA

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

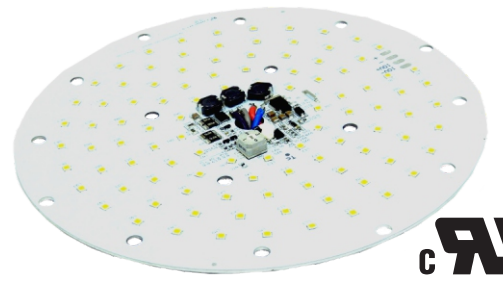
Ambient Temperature (Ta)	Thermal De-rating Multiplier
25°C	1
30°C	0.991
35°C	0.989
40°C	0.980
45°C	0.975
50°C	0.970
55°C	0.960
60°C	0.950

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

CCT vs Luminous Flux

CCT	Luminous Flux Ratio
6500K	0.96
5000K	1.00
4000K	0.93
3500K	0.90
3000K	0.87
2700K	0.81

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



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Compatible Fulham LED Drivers

Fulham Part Number	Driver Description	# of Modules/Driver	Wiring Diagram
T1UNV024V-150L	24V, 150W CV Driver, Universal Input	1	A



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

