



VMU252095CT8xxCT-48

48" CUTTABLE DC MODULE, 2520mA MAX CURRENT

- For use in UL Class 2 lighting systems
- Constant current for maximum efficacy
- 48" length, cuttable at every 1.333"
- High lumen, high efficacy
- Lumen Maintenance: L70>54,000hrs / L90=21,000hrs
- Meets UL8750 recognized
- RoHS compliant
- Ideal for linear architectural applications

General Specifications

	48"	24"	1.333"
LED Quantity	144 (4s36p)	72 (4s18p)	4 (4s1p)
Input Voltage ^①	36.4VDC	36.4VDC	36.4VDC
Input Current ^①	2520mA Max.	1260mA Max.	70mA Max.
Input Power ^①	91.6W	45.8W	2.5W
Initial Lumens @4000K / 80CRI ^①	14,385 lumens	7,692 lumens	400 lumens
Initial Lm/W @4000K / 80CRI ^①	157 lm/W	157 lm/W	157 lm/W
Initial Lumens per inch @Max. Current ^①	300 lm/inch		
Initial Lumens per string @Max. Current ^①	400 lm/string (4 LEDs)		
Beam Angle	120°		
CRI	80CRI (standard), 90CRI available		
Storage Temperature Range	-40°C to 100°C / -40°F to 212°F		
Operating Temperature Range (ta)	-40°C to 55°C / -40°F to 131°F		
Maximum Case Temperature (Tc)	L70: Tc max 105°C / L90: Tc max 105°C		
Estimated Lumen Maintenance ^②	L70: >54,000Hrs / L90: 21,000Hrs		
Color Consistency	Binning per ANSI C78.377-2015 @ 25°C; 3 SDCM		
Overall Size	48" L x 0.75" W x 0.173" H (1219.2mm x 19.05mm x 4.4mm)		
PCB Material / Thermal Conductivity	FR-4, 1.6mm thickness, 1oz copper, 0.3W/mK		
Module Weight	109g / 0.24lb.		
PCB Part Number	PTL078C01F4		
Maximum Screw Installation Torque	25 inch - ounces		
Connector Type	BJB #46.141.1001 or equivalent (single pole nano connector)		
Packaging: Master Carton	100pcs		
Thermal Feedback	Not Available		
Safety/Compliance	cURus (File # E351548) Suitable for UL Class 2 Lighting Systems RoHS Compliant Dry and Damp Location		
Warranty	5 years @ Max. Tc from the date of manufacture		

^①Nominal ratings. Performance based on Tc mod = 25°C. See thermal de-rating chart (pg. 4) for higher temperature operation

^②TM-21 Reported Numbers



VMU252095CT8xxCT-48

Electrical and Optical Specification

Full length - 48"

LED Module Part Number	Number of LED	Input Current	Nom. Forward Voltage	Nom. Rated Power	Max. Fwd. Voltage	Max. Rated Power	Nom. Lum. Flux @4000K/80 CRI	Nom. Efficacy @4000K/80 CRI	Nom. Lum. Flux per inch @4000K/80CRI	Nom. Lum. Flux per string @4000K/80CRI
Full Length 48" (36 Segments)	144	500 mA	33.2 VDC	16.6 W	37 VDC	19 W	3101 lm	187 lm/W	65 lm/inch	86 lm/string
		600 mA	33.4 VDC	20.0 W	37 VDC	22 W	3749 lm	187 lm/W	78 lm/inch	104 lm/string
		700 mA	33.5 VDC	23.5 W	37 VDC	26 W	4386 lm	187 lm/W	91 lm/inch	122 lm/string
		800 mA	33.7 VDC	26.9 W	37 VDC	30 W	5013 lm	186 lm/W	104 lm/inch	139 lm/string
		900 mA	33.8 VDC	30.4 W	37 VDC	33 W	5630 lm	185 lm/W	117 lm/inch	156 lm/string
		1000 mA	34.0 VDC	34.0 W	37 VDC	37 W	6237 lm	184 lm/W	130 lm/inch	173 lm/string
		1100 mA	34.1 VDC	37.5 W	38 VDC	42 W	6835 lm	182 lm/W	142 lm/inch	190 lm/string
		1200 mA	34.3 VDC	41.1 W	38 VDC	46 W	7422 lm	180 lm/W	155 lm/inch	206 lm/string
		1300 mA	34.4 VDC	44.8 W	38 VDC	49 W	8001 lm	179 lm/W	167 lm/inch	222 lm/string
		1400 mA	34.6 VDC	48.4 W	38 VDC	53 W	8570 lm	177 lm/W	179 lm/inch	238 lm/string
		1500 mA	34.8 VDC	52.1 W	38 VDC	57 W	9131 lm	175 lm/W	190 lm/inch	254 lm/string
		1600 mA	34.9 VDC	55.9 W	38 VDC	61 W	9683 lm	173 lm/W	202 lm/inch	269 lm/string
		1700 mA	35.1 VDC	59.6 W	39 VDC	66 W	10226 lm	171 lm/W	213 lm/inch	284 lm/string
		1800 mA	35.2 VDC	63.4 W	39 VDC	70 W	10761 lm	170 lm/W	224 lm/inch	299 lm/string
		1900 mA	35.4 VDC	67.2 W	39 VDC	74 W	11288 lm	168 lm/W	235 lm/inch	314 lm/string
		2000 mA	35.6 VDC	71.1 W	39 VDC	78 W	11807 lm	166 lm/W	246 lm/inch	328 lm/string
		2100 mA	35.7 VDC	75.0 W	39 VDC	82 W	12318 lm	164 lm/W	257 lm/inch	342 lm/string
		2200 mA	35.9 VDC	78.9 W	39 VDC	86 W	12822 lm	162 lm/W	267 lm/inch	356 lm/string
2300 mA	36.0 VDC	82.8 W	40 VDC	92 W	13318 lm	161 lm/W	277 lm/inch	370 lm/string		
2400 mA	36.2 VDC	86.8 W	40 VDC	96 W	13807 lm	159 lm/W	288 lm/inch	384 lm/string		
2520 mA*	36.4 VDC	91.6 W	40 VDC	101 W	14385 lm	157 lm/W	300 lm/inch	400 lm/string		

Luminous Flux De-Rating: CCT and CRI Multipliers

	2700K	3000K	3500K	4000K	5000K	5700K	6500K
CRI 80(R9>0)	0.921	0.929	0.961	1.000	1.016	1.008	1.000
CRI 90(R9>50)	0.772	0.780	0.811	0.843	0.858	0.850	0.843

NOTES:

- 1) Performance based on Tc mod = 25°C. See thermal de-rating chart (pg. 4) for higher temperature operation.
- 2) Standard lumen output and efficacy is calculated for standard options. Reference CCT & CRI vs Luminous Flux chart for lumen ratio calculation. Lumen tolerance +/- 8%.
- 3) Specifications are subject to change without notice.
- 4) The LED DC Module can be configured with different LED chip quantities, series and parallel design configurations to meet a specific design requirement. Contact Fulham for further assistance.
- 5) * Indicates maximum rated current. Modules may be operated at a current less than or equal to this value, below the Tc rating.
- 6) 70CRI is NOT available.



VMU252095CT8xxCT-48

Electrical and Optical Specification

Every Single Cut - 1.333"

LED Module Part Number	Number of LED	Input Current	Nom. Forward Voltage	Nom. Rated Power	Max. Fwd. Voltage	Max. Rated Power	Nom. Lum. Flux @4000K/80 CRI	Nom. Efficacy @4000K/80 CRI	Nom. Lum. Flux per inch @4000K/80CRI	Nom. Lum. Flux per string @4000K/80CRI
Every Single Cut 1.33" (1 Segment)	4	15 mA	33.3 VDC	0.5 W	37 VDC	1 W	93 lm	187 lm/W	70 lm/inch	93 lm/string
		20 mA	33.5 VDC	0.7 W	37 VDC	1 W	125 lm	187 lm/W	94 lm/inch	125 lm/string
		25 mA	33.8 VDC	0.8 W	37 VDC	1 W	156 lm	185 lm/W	117 lm/inch	156 lm/string
		30 mA	34.1 VDC	1.0 W	38 VDC	1 W	187 lm	182 lm/W	140 lm/inch	187 lm/string
		35 mA	34.4 VDC	1.2 W	38 VDC	1 W	216 lm	179 lm/W	162 lm/inch	216 lm/string
		40 mA	34.7 VDC	1.4 W	38 VDC	2 W	244 lm	176 lm/W	183 lm/inch	244 lm/string
		45 mA	34.9 VDC	1.6 W	38 VDC	2 W	272 lm	173 lm/W	204 lm/inch	272 lm/string
		50 mA	35.2 VDC	1.8 W	39 VDC	2 W	299 lm	170 lm/W	224 lm/inch	299 lm/string
		55 mA	35.5 VDC	2.0 W	39 VDC	2 W	325 lm	166 lm/W	244 lm/inch	325 lm/string
		60 mA	35.8 VDC	2.1 W	39 VDC	2 W	351 lm	163 lm/W	263 lm/inch	351 lm/string
		65 mA	36.1 VDC	2.3 W	40 VDC	3 W	375 lm	160 lm/W	282 lm/inch	375 lm/string
		70 mA*	36.4 VDC	2.5 W	40 VDC	3 W	400 lm	157 lm/W	300 lm/inch	400 lm/string

Luminous Flux De-Rating: CCT and CRI Multipliers

	2700K	3000K	3500K	4000K	5000K	5700K	6500K
CRI 80(R9>0)	0.921	0.929	0.961	1.000	1.016	1.008	1.000
CRI 90(R9>50)	0.772	0.780	0.811	0.843	0.858	0.850	0.843

NOTES:

- 1) Performance based on Tc mod = 25°C. See thermal de-rating chart (pg. 4) for higher temperature operation.
- 2) Standard lumen output and efficacy is calculated for standard options. Reference CCT & CRI vs Luminous Flux chart for lumen ratio calculation. Lumen tolerance +/- 8%.
- 3) Specifications are subject to change without notice.
- 4) The LED DC Module can be configured with different LED chip quantities, series and parallel design configurations to meet a specific design requirement. Contact Fulham for further assistance.
- 5) * Indicates maximum rated current. Modules may be operated at a current less than or equal to this value, below the Tc rating.
- 6) 70CRI is NOT available.



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Thermal Specifications

DC Module

Storage Temperature Range	-40 to 100°C / -40 to 212°F
Operating Ambient Temperature Range (ta)	-40 to 55°C / -40 to 131°F
Maximum Case Temperature (Tc)	L70 = 105°C (221°F) / L90 = 105°C (221°F)

Thermal De-Rating:

Tc vs. Luminous Flux vs. Forward Voltage

Module Case Temperature (Tc)	Total Vf Multiplier	Luminous Flux Multiplier
25°C	1.000	1.000
30°C	0.997	0.991
35°C	0.994	0.981
40°C	0.990	0.972
45°C	0.987	0.963
50°C	0.984	0.953
55°C	0.981	0.944
60°C	0.978	0.935
65°C	0.975	0.925
70°C	0.971	0.916
75°C	0.968	0.907
80°C	0.965	0.897
85°C	0.962	0.888
90°C	0.959	0.879
95°C	0.956	0.869
100°C	0.952	0.860
105°C	0.949	0.851

NOTES:

- 1) Thermal Derating may vary depending on the heat sink and the thermal interface.
- 2) Maximum case temperature is base on the LED LM80 values.



VMU252095CT8xxCT-48



Certification Chart

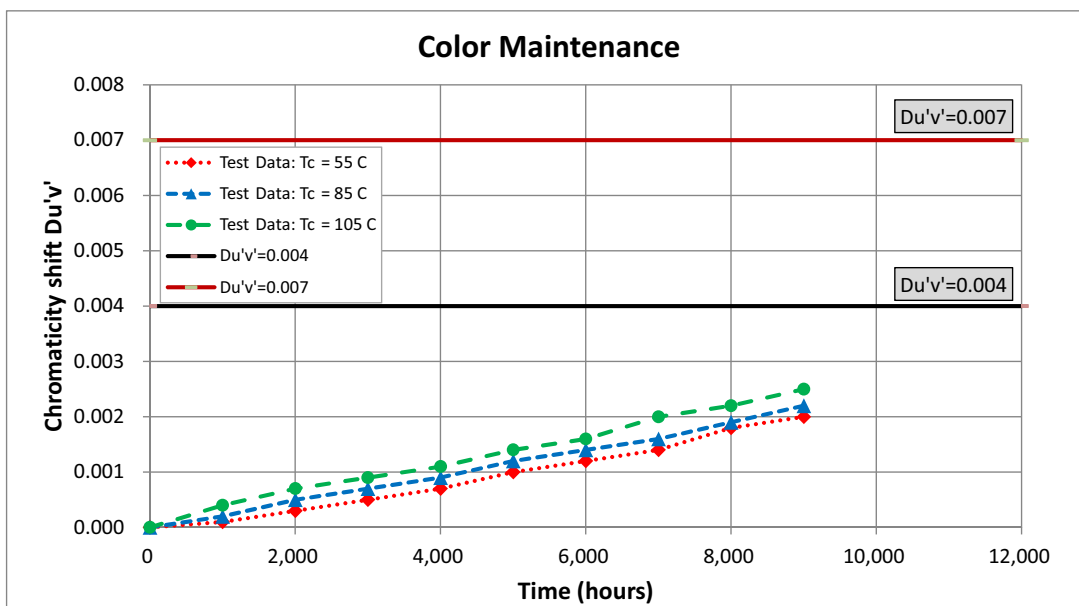
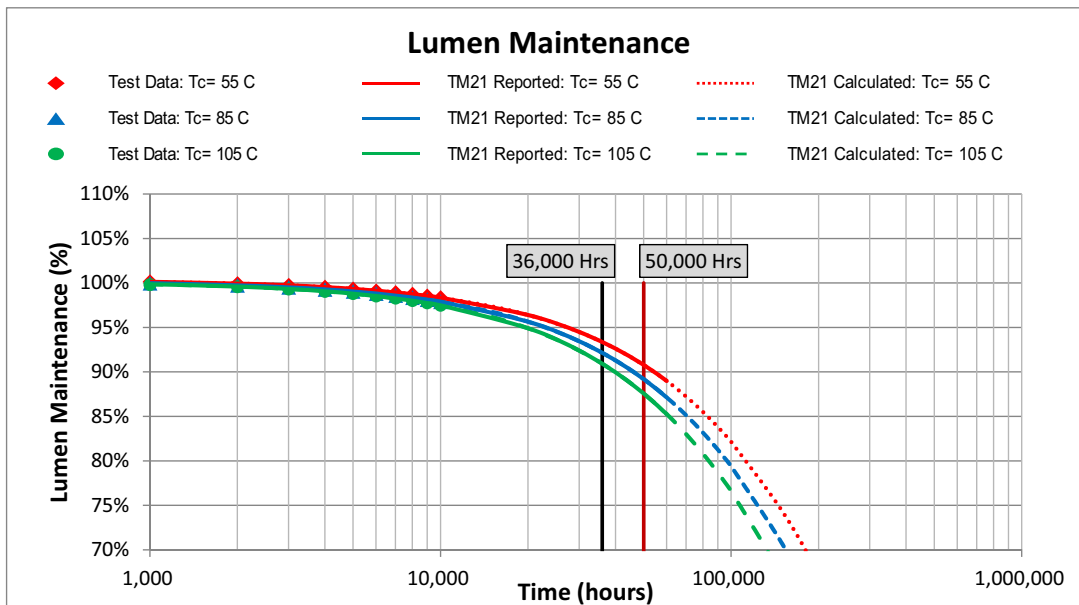
Model	Classification
VMU252095CT8xxCT-48	
	YES
	YES
Suitable for UL Class 2 Lighting System	YES

Energy Star™ TM-21 Calculator Data

Tc Module	Reported L70	Reported L90
55°C	>54,000 Hrs	34,000 Hrs
85°C	>54,000 Hrs	26,000 Hrs
105°C	>54,000 Hrs	21,000 Hrs

Tc Module	Calculated L70	Calculated L90
55°C	112,000 Hrs	34,000 Hrs
85°C	84,000 Hrs	26,000 Hrs
105°C	70,000 Hrs	21,000 Hrs

LED Lumen & Color Maintenance Data per LM-80 report and TM-21 Calculator





VMU252095CT8xxCT-48

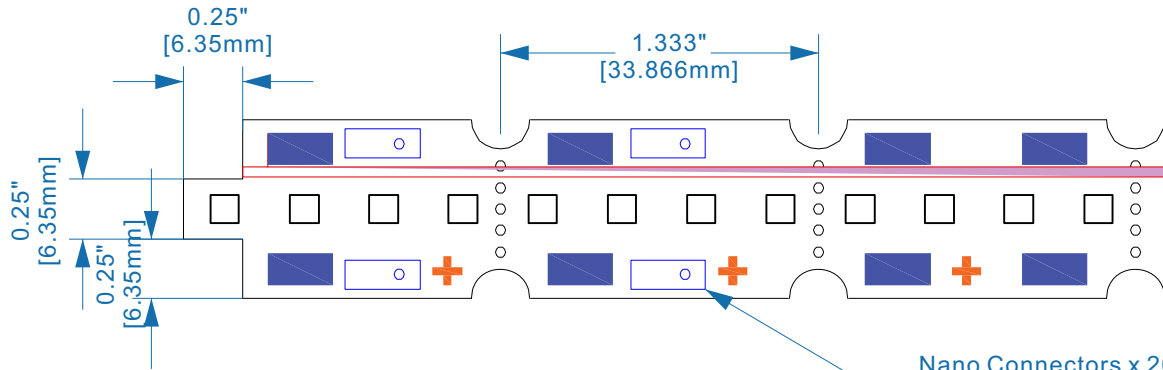
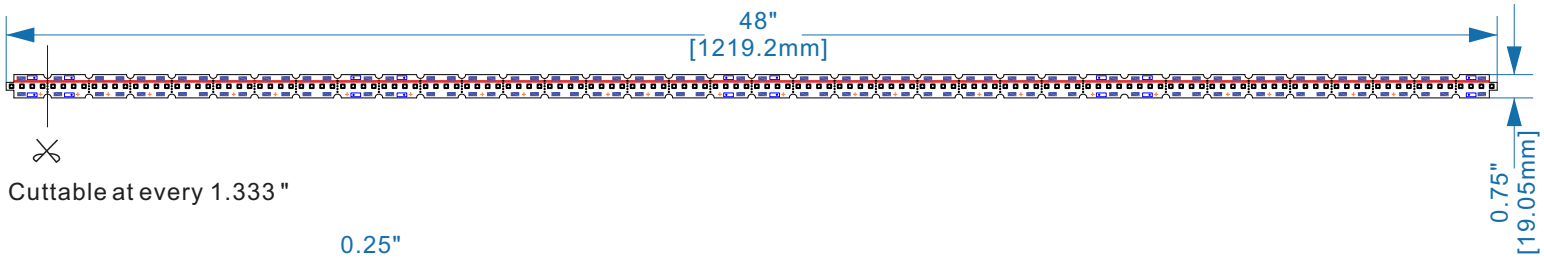
Mechanical Drawings

48"

[1219.2mm]

Overall Dimensions	
Length	48" [1219.2mm]
Width	0.75" [19.05mm]
Height (with Connector)	0.173" [4.4mm]
PCB Thickness	0.063" [1.6mm]

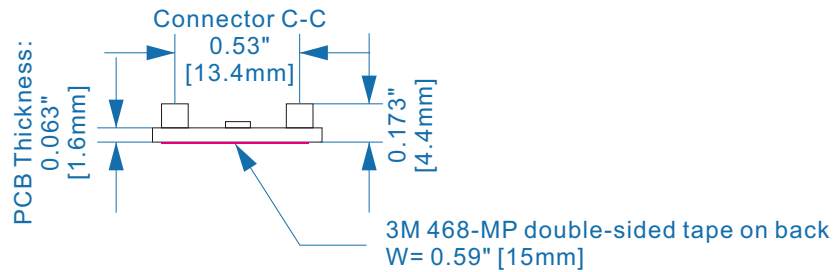
48" -144pcs LEDs



LED Pitch = 0.333" [8.467mm]

Nano Connectors x 20
For wire gauge 20-24AWG

TOP VIEW

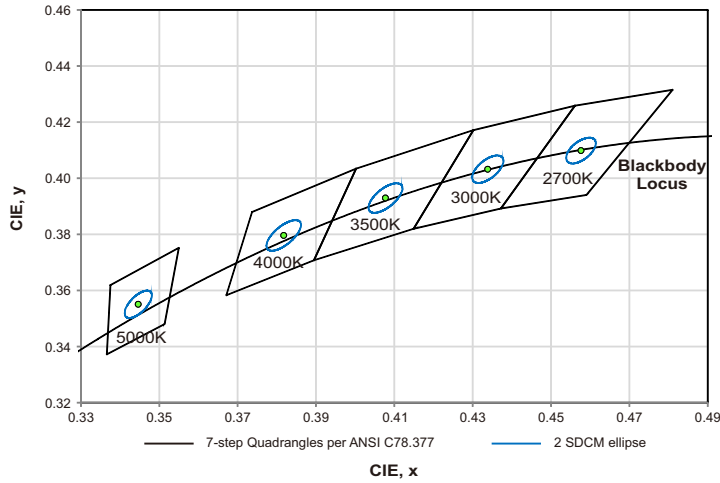


SIDE VIEW

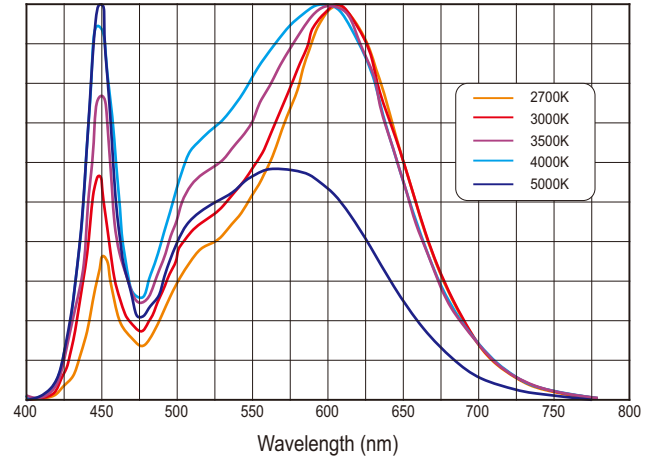


VMU252095CT8xxCT-48

Color and Binning



Optical Spectrum



Compatible Fulham Drivers

(Please use the links below for a complete list of compatible Fulham drivers and wiring diagrams)

- System Combination:
- Fulham's Wiring Diagrams: <https://cdn.fulham.com/PDFs/SpecSheets/DC-Modules-Wiring-Diagrams.pdf>
- Compatible with Fulham Hotspot EM Systems.

NOTES:

- 1) The Color and Binning and Optical Spectrum charts are for reference only. For more detailed info, contact factory.
- 2) Reference Samsung Chromaticity Diagram for Color and Binning. Binning per ANSI C78.377-2015 @ 25°C; 3 SDCM.
- 3) The Optical Spectrum values vary depending on product type and color rank.
- 4) Driver not included.
- 5) Do not connect DC Modules in parallel (end to end) if the current exceeds the maximum module rated current. This type of wiring would cause the pass-through current on the first module to exceed the rated current. This setup is in reference to wiring diagram #2 per Fulham's wiring diagram (see the link above). If the current is higher than the rated max, it is recommended to use wiring diagram #3.



VMU252095CT8xxCT-48

Guidelines

Termination Notes

- Connector Type: BJB Single Pole SMD Terminal Block, Part #: 46.141.1001 or Wago Part #: 2059-301
- cURus, ENEC Rating: 3A/320V
- Use solid wire size 20 - 24 AWG, and stripped to length 7 mm (0.275 inches).



Fastening Notes

- This module is not designed to work with metal screws. Fastening using plastic crews or double-sided tape is preferred.
- If fastening using double-sided tape, start with clean, oil-free and 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.
- BJB P2F (Push-to-Fix) fixing elements for PCBs can be used to fasten LED modules to mounting surface. Reference BJB's website for ordering information and specific model to use: <http://www.bjb.com/index.php?pid=376706&lid=10>.

Environmental Rating / Conformal Coating

- The DC Modules have been evaluated for use in dry or damp locations only. If used in wet locations, acceptability and the need for additional evaluation shall be determined in the end product.
- Fulham's DC modules are available with conformal coating; made to order with MOQ and lead time will apply. The conformal coating is a silicone based material which is double sprayed on the module only (LEDs and PCB). Conformal coating is recommended for the following applications: near ocean where salt is present, constant moisture, refrigeration, continuously high humidity, or outdoor applications. An IP rating of IP64 or IP65 is achieved when the conformal coating is used, but other factors should be considered. Fulham still recommends the luminaire also meet an IP64/65 rating.

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. Max Tc of module should not be exceeded.
- Use of thermal grease, paste, pad, or other material interface is highly recommended.

Polarity Notes

- DC 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.



VMU252095CT8xxCT-48



Part Number Matrix

V M U 252095 CT 8 XX CT-48

Product Line	Type	Control Type	Input Current	Max. Power	Design	CRI	Color Temperature	Option	Length
V = Vizion	M = Module	U = None	252 = 2520mA Max.	095 = 95W	CT=Cuttable	8 = 80CRI 9 = 90CRI	27 = 2700K 30 = 3000K 35 = 3500K 40 = 4000K 50 = 5000K 57 = 5700K 65 = 6500K	CT = Custom Option with 3M-468 tape on back	48 = 48"

All CCT and CRI options are made to order with MOQ and lead time.

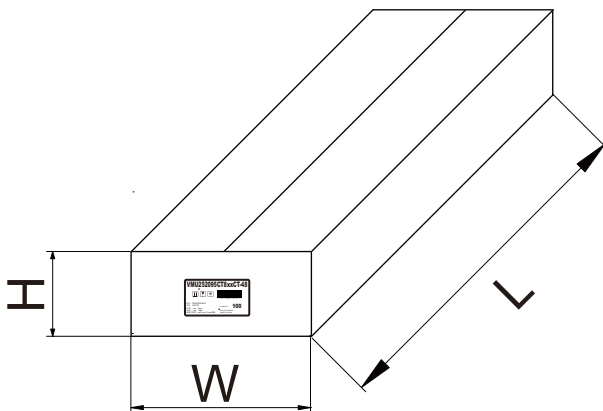
Product Image:



TOP VIEW

Packaging

Master Carton



OUTER DIMENSION		
L	W	H
49.45"(1256mm)	8.66"(220mm)	6.5"(165mm)
Net Weight	Gross Weight	QUANTITY
24 lbs. (10.9kg)	27.34 lbs. (12.4kg)	100pc.