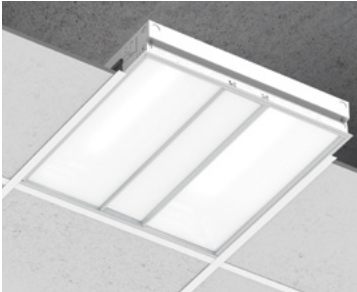


# NOVA 2x2 LED

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Grid - shown with a Nova flat lens



Grid - shown with a Nova Slope lens

PROJECT: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

## DESCRIPTION

**Nova** is an efficient architectural LED troffer with a distinctive luminous shielding that distributes gentle brightness from the sides of its central optical element. Using advanced LED engines, Nova provides highly efficient illumination and offers comprehensive ceiling, electrical, and controls options in 2x2, 1x4, and 2x4 sizes. Nova is available with both Flat and Slope side diffusers.

See separate spec sheets for other available mountings.

## ORDER GUIDE

LUMINAIRE ID	SIZE	CENTER OPTICS	SIDE OPTICS	LIGHT SOURCE	CRI	LUMEN PACKAGES	COLOR TEMP.
<b>NOVRF</b> - nova recessed flat	<b>22</b> - 2'x2'	<b>PMO</b> - Precision Micro-Prism Optic	<b>HLO</b> - High-Efficiency Lambertian Optic	<b>LED</b> - high performance LED	<b>80</b> - 80CRI <b>90</b> - 90CRI	<b>2300</b> - min. low output 2300lm <b>3200</b> - medium output 3200lm <b>4200</b> - max. high output 4200lm #### - other required lm	<b>27</b> - 2700k <b>30</b> - 3000k <b>35</b> - 3500k <b>40</b> - 4000k

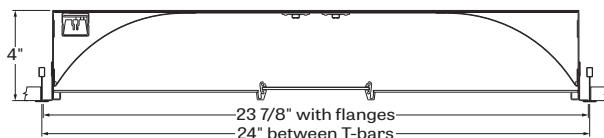
VOLTAGE	DRIVER	ELECTRICAL	MOUNTING	FINISH	CONTROLS
<b>120</b> - 120V <b>277</b> - 277V <b>UNV</b> - 120V-277V <b>347</b> - 347V (not available with Lutron)	<b>D1</b> - 1% dimming 0-10V <b>DA</b> - Dali <b>LTEA2W</b> - Lutron 1% - 2 wire FF 120V <b>LDE1</b> - Lutron Hi-lume 1% Eco <b>LDE5</b> - Lutron 5% EcoSystem	<b>1</b> - 1 circuit <b>+EB</b> - emergency battery pack <b>+GTD###</b> - generator transfer device, 120V or 277V	<b>TG9</b> - tegular 9/16" <b>TG15</b> - tegular 15/16" <b>TB9</b> - t-bar 9/16" <b>TB15</b> - t-bar 15/16" <b>ST</b> - screw slot t-bar <b>DF</b> - drywall kit	<b>W</b> - matte white <b>CF#</b> - custom finish specify RAL#	<b>STANDALONE CONTROLS</b> <b>OMS</b> - Onboard Occupancy <b>ODS</b> - Onboard Daylight <b>OCS</b> - Onboard Occupancy & Daylight <b>CONNECTED CONTROLS</b> <b>CCS()</b> - <b>LU</b> -Lutron, <b>EN</b> -Enlighted, <b>OS</b> -Osram, <b>CR</b> -Crestron. To specify see information on page 5

See page 4 for ordering code detailed information

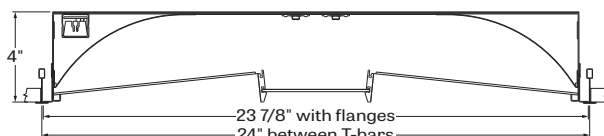
## OPTIONS

**FU** - fuse  
**FWC** - flexible whip cable (6' std)  
**AR** - air return (for grid only)  
**CP** - Chicago Plenum  
**CU** - custom

## CROSS SECTION



**NOVRF** - nova flat t-bar 9/16



**NOVRS** - nova slope t-bar 9/16

## OPTICS



**NOVRS** - nova slope



**NOVRF** - nova flat

File Name: NOVA22-RECESSED-SPEC

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July 25, 2019

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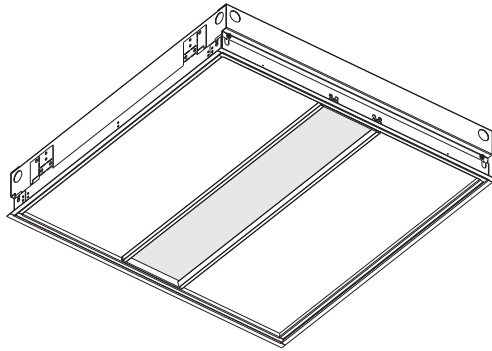


# NOVA 2x2 LED

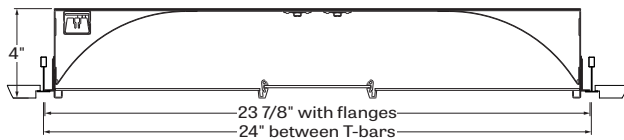
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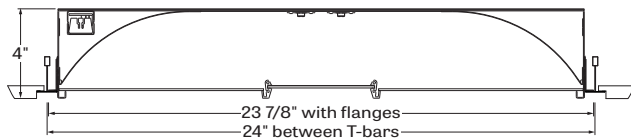
## NOVA FLAT



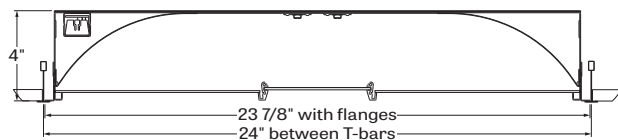
**NOVA FLAT - TG9 - tegular 9/16"**



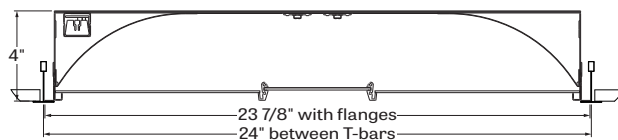
**NOVA FLAT - TG15 - tegular 15/16"**



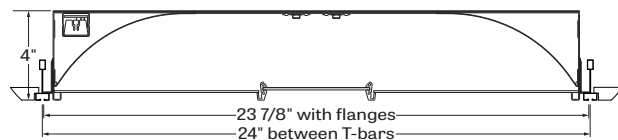
**NOVA FLAT - TB9 - t-bar 9/16"**



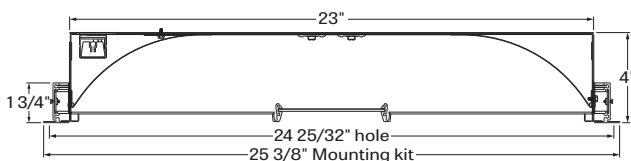
**NOVA FLAT - TB15 - t-bar 15/16"**



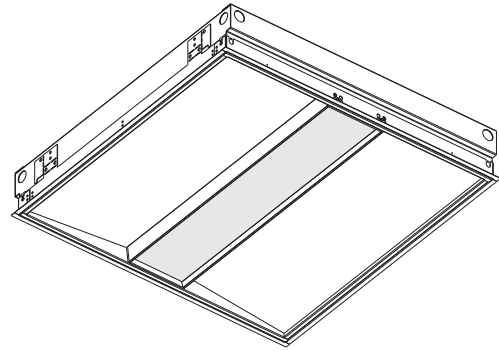
**NOVA FLAT - ST- screw slot t-bar**



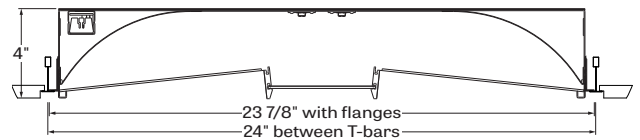
**NOVA FLAT - DW- drywall kit**



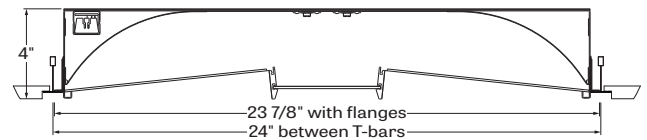
## NOVA SLOPE



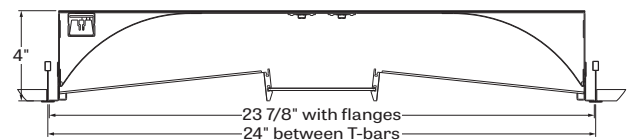
**NOVA SLOPE - TG9 - tegular 9/16"**



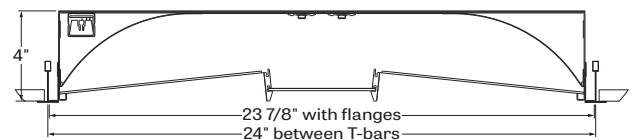
**NOVA SLOPE - TG15 - tegular 15/16"**



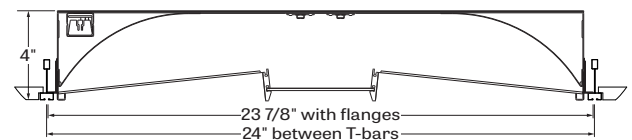
**NOVA SLOPE - TB9 - t-bar 9/16"**



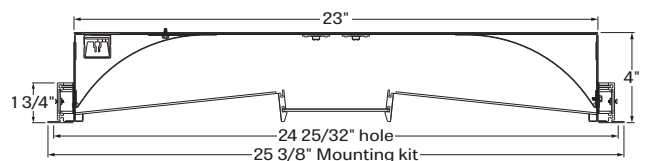
**NOVA SLOPE - TB15 - t-bar 15/16"**



**NOVA SLOPE - ST- screw slot t-bar**



**NOVA SLOPE - DW- drywall kit**



# NOVA 2x2 LED

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## ELECTRICAL CIRCUITS

### DIMMING 0-10V -

1 Circuit

1 CIRCUIT	BLK	HOT (CIRCUIT-1)
	WHT	NEUTRAL (CIRCUIT -1)
	GRN	GROUND
	PPL	DIM(+) 0-10V
	GRY	DIM(-) 0-10V

**NOTE:** MUST FOLLOW WIRE SIZE AND MAXIMUM LENGTH FOR DIMMING APPLICATIONS.

### LUTRON 1% 2-wire FF 120V -

1 Circuit

1 CIRCUIT	BLK	HOT
	WHT	NEUTRAL
	GRN	GROUND

**NOTE:** MUST FOLLOW WIRE SIZE AND MAXIMUM LENGTH FOR DIMMING APPLICATIONS.

### LUTRON LDE1 1%/LDE5 5% EcoSystem -

1 Circuit

1 CIRCUIT	BLK	HOT
	WHT	NEUTRAL
	GRN	GROUND
	PPL	E1 To EcoSystem
	GRY	E2 Digital Link

**NOTE:** MUST FOLLOW WIRE SIZE AND MAXIMUM LENGTH FOR DIMMING APPLICATIONS.

### DIMMING 0-10V -

1 Circuit + Emergency Battery

1 CIRCUIT+EB	BLK	HOT (CIRCUIT-1)
	WHT	NEUTRAL (CIRCUIT -1)
	GRN	GROUND
	RED	UNSWITCHED HOT
	PPL	DIM(+) 0-10V
	GRY	DIM(-) 0-10V

**NOTE:** MUST FOLLOW WIRE SIZE AND MAXIMUM LENGTH FOR DIMMING APPLICATIONS.

### LUTRON 1% 2-wire FF 120V -

1 Circuit + Emergency Battery

1 CIRCUIT+EB	BLK	HOT
	WHT	NEUTRAL
	GRN	GROUND
	RED	UNSWITCHED HOT

**NOTE:** MUST FOLLOW WIRE SIZE AND MAXIMUM LENGTH FOR DIMMING APPLICATIONS.

### LUTRON LDE1 1%/LDE5 5% EcoSystem -

1 Circuit + Emergency Battery

1 CIRCUIT+EB	BLK	HOT
	WHT	NEUTRAL
	GRN	GROUND
	RED	UNSWITCHED HOT
	PPL	E1 To EcoSystem
	GRY	E2 Digital Link

**NOTE:** MUST FOLLOW WIRE SIZE AND MAXIMUM LENGTH FOR DIMMING APPLICATIONS.

# NOVA 2x2 LED

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## OPTICS

**CENTER LENS - PRECISION MICRO-PRISM-OPTIC (PMO)** - utilizes a specially designed catadioptric lens that combines refraction and internal reflection. The square-base prism is 24% the size of those used in a high-performance fluorescent lens. The exclusive two-dimensional array of prisms is designed to eliminate the glare found at higher viewing angles and as such, enables a glare cut-off at a 45° viewing angle.

The acrylic material itself is untinted, relying entirely on catadioptric control for effective source obscuration. A highly efficient TIR process at the acrylic-air interface on the prism surfaces redirects incident light with less than a 0.1% loss per reflection. As a result, these LumenWerx optics attain a high optical efficiency greater than 90%, while maintaining visual comfort at normal viewing angles and presenting a pleasing luminous appearance.

**SIDE LENS - HIGH EFFICIENCY LAMBERTIAN OPTIC (HLO)** - shielding of diffusing 0.075" thick acrylic with up to 88% transmission and good source obscuration.

## LIGHT SOURCE - LED

Custom array of mid-flux LED's are mounted directly to the housing for optimal thermal performance. Available in 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operated at reduced drive current to optimize efficacy and lumen maintenance.

All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
low output	4000K	20	2300	117
medium output	4000K	29	3200	112
high output	4000K	38	4200	110

## ELECTRICAL

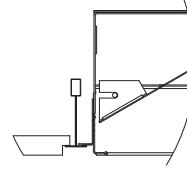
Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), Lutron 5-Series (5% Ecosystem), DMX (RDM compatible) and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

## EMERGENCY

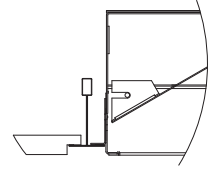
Factory installed long life high temperature recyclable Ni-Cad battery pack with test switch and charge indicator, minimum of 90 minutes operation, up to 1300 lumens (25°C) emergency lighting output. Recharge time of 24 hours.

## MOUNTING OPTIONS

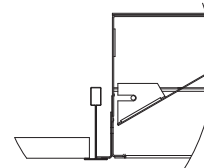
Recess mount into exposed or concealed T-Bar or Tegular grid ceiling



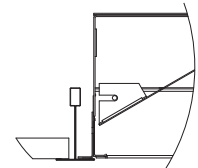
TG9 - tegular 9/16"



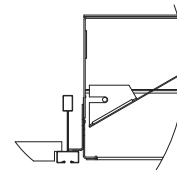
TG15 - tegular 15/16"



TB9 - t-bar 9/16"

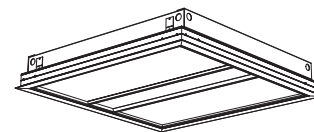
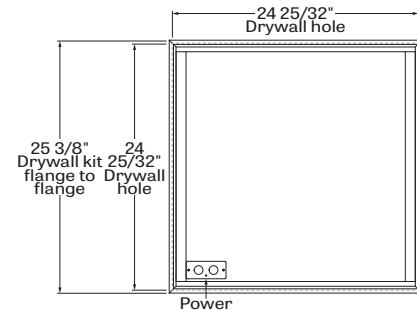


TB15 - t-bar 15/16"



ST - screw slot t-bar

A separate kit for mounting fixtures into drywall ceilings



DF - drywall kit

## FINISH

**Interior reflectors** - 95% reflective, matte white powder coating

**Exterior** - matte white powder coating.

Custom finish is also available.

# NOVA 2x2 LED

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## CONTROLS

LumenWerx offers several options for integrating occupancy and daylight harvesting controls in our luminaires.

### STANDALONE CONTROLS

An integrated standalone sensor controls the luminaire in which it is installed. Depending on the length, more than one sensor may be necessary and may control the entire luminaire, or just a section of it. These controls operate independently. Unless otherwise agreed, location and functionality of the sensor within the luminaire are selected by LumenWerx.

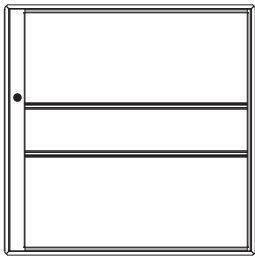
Three types are available:

**OMS:** An integral Passive InfraRed (PIR) sensor turns luminaires on and off automatically with field-adjustable time out period. No wall control is used.

Coverage pattern for large motion has a 12' diameter with the sensor mounted 8' above the floor; for small motion, the pattern has an 8' diameter. Typically, one sensor is required for every 10' of a continuous luminaire run.

**ODS:** An integral, daylight harvesting sensor with closed-loop operation dims the luminaire in which it is installed in order to compensate for available daylight. The sensor measures the combination of daylight and luminaire light reflected from horizontal surfaces below the luminaire. Initial onsite calibration is required via the use of provided remote control.

**OCS:** Both an occupancy and a daylight sensor are installed in the luminaire.



1 1/2"  
Location of an Onboard control

### CONNECTED CONTROLS

With Connected Controls, sensors or nodes installed in the luminaire form part of a larger control system infrastructure from manufacturers such as: Lutron\*, Enlighted, Osram ENCELIUM, Acuity nLight, Crestron and others. These connected controls allow for a scalable system providing features like occupancy and daylight control, manual control, scheduling and configuration of various zones and scenes. Energy reporting and system monitoring are also possible. Specific capabilities depend on the control system being used.

LumenWerx installs the components (sensors, nodes, power packs, etc) which may be supplied to us by a third party, or procured directly by LumenWerx, depending on the control system manufacturer.

LumenWerx is solely responsible for the installation of specified components; the controls manufacturer is responsible for performance of the control system.

To indicate a LumenWerx luminaire with Connected Controls, identify the specific onsite control system to be integrated into the luminaires using the ordering code. Due to the diversity of components, you must contact [controls@lumenwerx.com](mailto:controls@lumenwerx.com) to assure complete compatibility with intended control system and to fully specify the luminaire.

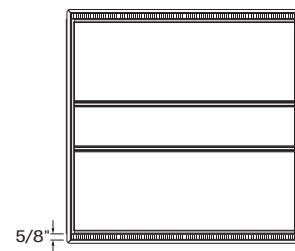
Complete control specifications, sensor/node/power pack layout, and narrative for the control system are required for LumenWerx to create shop drawings and submittals.

\* Lumenwerx offers a Lutron Vive-Enabled fixture option using either the DFCSJ-OEM-OCC (OCS Option) or DFCSJ-OEM-RF (wireless only, no sensor) Integral Fixture Modules and a DALI or EcoSystem LED driver based on customer dimming requirements.

**Please contact our controls department at [controls@lumenwerx.com](mailto:controls@lumenwerx.com) for further assistance.**

## OPTIONS

The air return option consists in a discreet, yet efficient, slot pattern integrated into the side flanges of the luminaire, allowing the airflow to exhaust into plenum space, creating a clean, pleasant look of the ceiling.



Air Return

## CONSTRUCTION

**Housing** - Die formed cold rolled sheet steel 20 gauge thick, matte white powder coating.

**Reflectors** - Cold rolled steel 0.030" thick precisely die formed, 95% reflective matte white painted.

**Interior brackets** - Die formed cold rolled sheet steel 20 gauge thick.

**Center basket** - Extruded Aluminum 0.07" nominal, matte white and lens made in clear PMMA precisely formed into optical micro-structures forms.

**Side lenses** - Frost impact acrylic lens 88% transmissive.

**Drywall kit** - Extruded Aluminum 0.07" nominal, matte white powder coating.

## WEIGHT

**Nova 2x2:** 16.52lbs.+2.51lbs. (drywall kit) - 7.5kg+1.14kg (drywall kit)

# NOVA 2x2 LED

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## CERTIFICATIONS

**ETL** - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.

**DLC** - Testing to DLC requirements, for this product, have been completed by an Accredited Laboratory and certified by DLC.

**Lighting facts** - testing products and reporting performance results according to industry standards.

**Chicago plenum** - City of Chicago Approved (CCEA)

**IC rated** - suitable for direct contact with insulation.

## WARRANTY

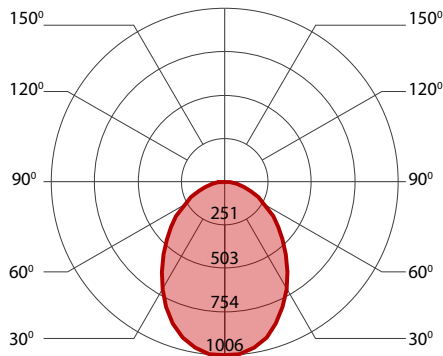
LumenWerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. LumenWerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

# NOVA 2x2 LED

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## 2300 LUMEN AT 80CRI - LOW OUTPUT

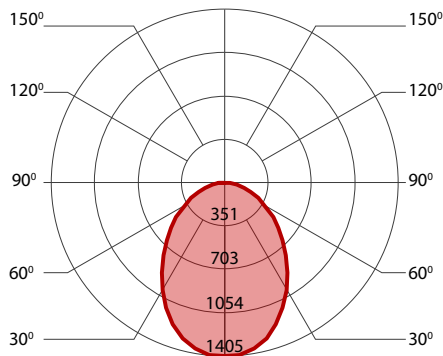


### PERFORMANCE

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
low output	2700K	21.5	2300	107
low output	3000K	20	2300	115
low output	3500K	20	2300	115
low output	4000K	20	2300	117



## 3200 LUMEN AT 80CRI - MEDIUM OUTPUT

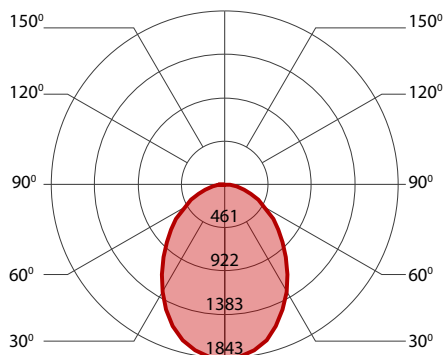


### PERFORMANCE

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
medium output	2700K	31	3200	103
medium output	3000K	29	3200	110
medium output	3500K	29	3200	110
medium output	4000K	29	3200	112



## 4200 LUMEN AT 80CRI - HIGH OUTPUT



### PERFORMANCE

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
high output	2700K	41.5	4200	101
high output	3000K	39	4200	108
high output	3500K	39	4200	108
high output	4000K	38	4200	110

