LED Recessed Lighting

Diamond Series LED Retrofit

Platinum Series LED Housings and Trims

LED Step Lighting

Energy Star — CHANGE FOR THE BETTER WITH ENERGY STAR | RoHS COMPLIANT | TITLE 24 2008 | AIR TIGHT | c UL us LISTED | WET | lighting facts

NORA LIGHTING ®

Illuminating the *future*

What is LED?

The Light Emitting Diode…LED

Basically, LEDs are tiny light bulbs, or semiconductor diodes, that fit easily into an electrical circuit. But unlike ordinary incandescent lamps, they do not have a filament that burns out or gets hot. The diodes emit light when partnered with an electrical current and are illuminated solely by the movement of electrons in the semiconductor material.

The LED is called solid state lighting or "SSL" because light is emitted from a solid object, the semiconductor diode, instead of a vacuum or gas tube (like an incandescent, fluorescent or HID lamp). The diode itself is a two-terminal crystalline and when an electrical current passes through it, the recombination of positive and negative charges results in the emission of visible light. Less than one millimeter square, individual LEDs are clustered on a circuit board to create an array, which is then incorporated into a light fixture.

> "…no other lighting technology offers as much potential to save energy and enhance the quality of our building environments, contributing to our nation's energy and climate change solutions."
>
> *Energy Efficiency and Renewable Energy Section*
> *U.S. Department of Energy*

Longer Performance Life

LEDs have a rated life based on the time it takes for the light output to decrease to 70% of the original output, which is typically about 50,000 hours or 17 years of normal use. A typical incandescent fixture will need to be re-lamped 10 or more times during the life of an LED fixture.

As LED chips increase in lumens and efficacy, the lighting industry is focused on producing better performing products. With higher lumen-per-watt LEDs being introduced everyday, the future for LEDs is bright. Within the next decade LEDs are expected to be the dominant light source…a clean and green alternative for homes, cities and business.

Lighting Facts and Nora Lighting

Who is Lighting Facts? Lighting Facts is sponsored by the Department of Energy (DOE) and is a program to assure that LED lighting products are represented accurately in the market.

How does Lighting Facts choose which products earn the label? To obtain the Lighting Facts approval, Nora had to submit verifiable photometric data for each LED product. If they meet the category criteria, lab testing and the performance results in five areas—lumens, efficacy, watts, correlated color temperature (CCT), and color rendering index (CRI), the products are approved and all five areas are represented on the label.

Why was the Lighting Facts Label established? The Lighting Facts label tells specifiers and consumers exactly what they can expect and gives them the reassurance that Nora LEDs perform to the stated levels. To show this, in a label similar to the Nutrition Facts, we supply the model number and all performance results within. The label is used on all marketing materials and packaging.

What does this mean for Nora? We can directly answer the question: Do your LED lighting products really perform as promised? As we know, not all LEDs do. With the Lighting Facts label, there is no question Nora's LED products are superior in our industry and backed by the most prominent energy-efficient and government agencies.

Committed to Green
Nora Lighting has hundreds of fixtures that have earned the Energy Star Label

What is ENERGY STAR? Energy Star is the trusted, government-backed symbol for energy efficient helping us all save money and protect the environment through energy-efficient products and practices. The ENERGY STAR label was established to: Reduce greenhouse gas emissions and other pollutants caused by the inefficient use of energy; and make it easy for specifiers and consumers to identify energy-efficient products that offer savings on energy bills without sacrificing performance, features, and comfort.

How Does EPA Choose which Products Earn the Label? Products can earn the ENERGY STAR label by meeting the energy efficiency requirements set forth in ENERGY STAR product specifications. EPA established these specifications based on key guiding principles based on energy savings and efficiency nationwide, features and performance demands and testing requirements, utility bill savings, and proper labeling.

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Nora **LED Recessed Lighting**

LED Diamond and Platinum Features

FEATURES	DIAMOND	PLATINUM
Deep set lens for visual comfort and glare control	X	X
Wet Label cULus Listed	X	X
2700K, 3000 and 4000K Color temperatures (CCT)	X	
3000 and 4200K Color temperatures (CCT)		X
Die-cast aluminum reflector and flange		X
cULus Listed for Retrofit applicaion in existing housings	X	
Available for new construction or remodel applications	X	X
Die-Cast aluminum LED module and outboard mounted driver		X
UTM heat management system	X	
Available in 4", 5" and 6"	X	X
Osram® LED package		X
Cree® LED package	X	
Dimmable with incandescent dimmer	X	X
Available with emergency battery back-up		X
Die Cast reflectors available in 4 finishes		X
High grade spun aluminum reflector and baffles in 7 finishes	X	
Approved "Lighting Facts" available	X	X
CEC approved and listed	X	X
Meets Title 24 requirements	X	X
Dedicated new contruction and remodel housings	X	X
cULus Listed	X	X
Energy Star Listed	X	X
IC and Air Tight rated	X	X
Tested in accordance with LM79 and LM80	X	X

LED Diamond Retrofit Series

Nora's newest family of LED recessed luminaries is uniquely designed using Cree® LEDs for retrofit applications, but can also be used in new construction and remodel applications. "RETROFIT" refers to an application where an existing housing installed in commercial, public, or a residential space is converted to another light source without having to remove the existing housing. Nora's LED Diamond Series has been designed and tested to cULus standards to be used in Nora existing housings as well as many other manufacturers' housings. The Diamond can also be specified for use with Nora dedicated housings. The ability to use the Nora LED Diamond Series in existing housings allows for easier, lower cost, replacement of an existing light source improving the pay-back factor when changing to LED Energy Saving lighting.

LED Platinum Series

Nora's fist generation of LED recessed lighting is designed for new construction and remodel applications. Time tested in commercial, national account and residential applications across the US, the LED Platinum Series uses a separate LED module and a dedicated housing with an outboard mounted LED driver system allowing for excellent heat management. The Platinum series uses high output Osram® LEDs producing as much as 710 lumens. The die-cast aluminum LED module is integral to the die-cast low profile flange.

What is a "Dedicated" Housing and why use one?

Both the Nora Diamond and Platinum Series of recessed LED luminaries can be specified for use with respective "dedicated" housings. "Dedicated" refers to a housing, new construction or remodel, that can only be used with and is only cULus listed for use with a specific Nora LED recessed module. These housings come with a unique connector that can only be use with the respective Platinum or Diamond LED module.

Many local and national codes require the use of a "dedicated" LED unit to meet energy savings requirements for building energy codes, LEED's points, and energy rebates. Because the "dedicated" housing requires and is cULus listed for the use of a specific Nora LED modules the end user cannot use or convert the installed "dedicated" housing to another low efficacy source. This can be very important to lighting specifiers and end users expecting a performance level and visual appearance as found in only the Nora LED unit.

LED Retrofit **Diamond Series**

4", 5" AND 6" LED ENERGY EFFICIENT RECESSED LIGHTING

Nora Lighting introduces a new series of LED Retrofit recessed downlights cULus listed and UL classified for use in existing 4", 5" and 6" Remodel or New Construction housings manufactured by Nora and others. The 10 watt 4" Retrofit provides 530 lumens, while the 11.8 watt 5" and 6" have 650 lumen output . All are offered in 2700K, 3000K and 4000K, are dimmable and consume 75% less energy than incandescent sources.

FEATURES

· 7 year limited warranty

· Smooth dimming down to 5%

· Title 24 and Energy Star Rated

· Qualifies for LEEDS points and Energy Rebates

· cULus Listed, Damp Location series and Wet Location series

· Tested in accordance with IESNA LM79 & LM80

· Scientifically designed lens diffuses the LED image while providing high lumen output; standard on all trims

· 5" and 6" produces 650 Lumens using only 11.8W 4" unit produces 530 Lumens using only 10W

· 2700K, 3000K and 4000K at 91 to 86 CRI

· Long life LEDs up to 50,000 hours

· Lighting Facts approved

· Save 75% compared to Incandescent source

· Available in 3 configurations: For medium based housings, GU24 optional socket, and dedicated hardwire with quick connect

· No ultraviolet or infrared wavelengths that cause fading of artwork and perishable merchandise. Mercury free!

· Does not emit forward heat like traditional light sources

· Available in Reflector and Baffle style in Bronze, Copper, Natural Metal, Haze, Clear, Black and White finishes

Easily replace your existing medium based incandescent lamp with an energy efficient LED. No tools required!

Business and residential customers are switching to LEDs to save money and the environment	65W BR30 Incandescent	18W Compact Fluorescent	12W LED Source
Fixture energy cost for 50,000 hrs.	$3,250	$900	$750
Life in years	.67 Years	4.1 Years	17 Years
Useable Light (fc)*	24.2	21.9	22.6
Energy Star Qualified	No	Yes	Yes

*Average footcandles at 8' mounting height, 20' x 20', multiple units, spaced at 6' O.C.

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LED Retrofit **Diamond Series**

7 YEAR
LIMITED WARRANTY

Quick Connect
Easily connect the LED Retrofit
to an existing or new housing

**Medium
Screw Base**
Optional GU24
adapter available

Dimmable Integral Driver
2-wire dimming down to 10%
with standard Incandescent
dimmer. For optimum 5%
dimming and minimal loads
use electronic low voltage
dimmer or a dimmer designed
for LED dimming

**UTM - Unitized Thermal
Management System**
Fins dissipate heat

Qualifies for
LEEDS points and
energy rebates

UL Classified
for use in 4", 5" and 6"
IC or Non-IC housings
by Nora and others

Apertures
3-7/8", 4-5/8" and 5-1/4"
Small size with high
Lumen output

cULus Listed
Damp Location Series
Wet Location Series WET

LEDs
2700K, 3000K and 4000K,
91 to 86 CRI
10W 4", 11.8W 5" & 6"

Environment Friendly
No Mercury, ultraviolet, or
infrared wavelengths

Diffused Lens
Deep set for excellent
visual comfort

Reflector or Baffle
Self-Flanged Spun
Aluminum

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Diamond Series
4", 5" and 6" LED Retrofit

Nora Lighting is excited to introduce a new product line to our LED family, LED Retrofit Diamond Recessed Luminaires. The Nora LED Retrofit Diamond is designed and cULus and Wet listed for use in existing 4"**, 5" and 6" IC or Non-IC housings manufactured by Nora and others. Providing up to 650 lumen output and 91 to 86 CRI the LED Diamond Retrofit is an obvious choice for Green Energy Efficient Lighting in Commercial and Residential applications.

Now available in Wet Label!

NRA-212
GU24 Adapter

Electrical:	4"	5"	6"
Voltage:	120VAC	120VAC	120VAC
Current:	100mA	100mA	100mA
Lumens:	530lm	650 lm	650 lm
Power Consumption:	10 Watts	11.8 Watts	11.8 Watts
CRI:	91	87	87
Operating Temp:	0°C~50°C (32°F~122°F)		
Life Expectancy:	50,000 Hours		

Socket:
Edison Medium Base Socket (included w/ Retrofit)
Quick Connect (included with dedicated)
GU24 Socket (accessory available)

Installation: Torsion springs

Construction: Scientifically and specifiable "Unitized Thermal Management system" (**UTM**) provides exceptional cool operation exceeding all industry standards.

Lens: Deep set for excellent glare control scientifically designed for optimal performance.

Dimming: Nora Diamond Retrofit works with standard leading and trailing edge dimming technologies. Dimming with leading-edge dimmers (electronic) are 5-100% and for trailing-edge dimmers (incandescent) 10-100%. There may be some cases that require more than one lighting fixture to be used to meet minimum dimmer load. Consult with dimmer manufacturer.

Listing:
cULus Listed for Damp Location (NLEDC-66/56/46 and NLEDR-66/56/46 Series)
cULus Listed for Wet Location (NLEDC-67/57 and NLEDR-67/57 Series)
UL Classified for use with most manufacturers IC and Non-IC housings
WSEC ASTM E283 for Air-Tight (with IC Housing)
Title 24 Compliant (GU24 & Dedicated Version)
Energy Star Rated
RoHS Compliant
Lighting Facts approved
7 Year Limited Warranty
Conforms to IESNA LM-79 and LM-80

6" unit as shown
NLEDR-66140HZW
NLEDR-67140HZW WET

5" unit as shown
NLEDC-56230WW
NLEDC-57230WW WET

4" unit as shown
NLEDR-46127WW

6" LED RETROFIT DIAMOND UNIT

CATALOG. NO.	TRIM	COLOR TEMP.	FINISH
NLEDC - Dedicated* **NLEDR** - Retrofit	**661** - Reflector WET **671** - Reflector, Wet Label **662** - Baffle WET **672** - Baffle, Wet Label	**27** - 2700K **30** - 3000K **40** - 4000K	See next page

Order Example: NLEDR-66230BZBZ

5" LED RETROFIT DIAMOND UNIT

NLEDC - Dedicated* **NLEDR** - Retrofit	**561** - Reflector WET **571** - Reflector, Wet Label **562** - Baffle WET **572** - Baffle, Wet Label	**27** - 2700K **30** - 3000K **40** - 4000K	See next page

4" LED RETROFIT DIAMOND UNIT *available in July*

NLEDC - Dedicated* **NLEDR** - Retrofit	**461** - Reflector **462** - Baffle	**27** - 2700K **30** - 3000K **40** - 4000K	See next page

* LED Dedicated unit includes Quick Connect for use with Dedicated Remodel and New Construction Nora housings.

** 4" LED Retrofit available in July.

Diamond Series **Finishes**

Reflector / Flange Finishes

Retrofit unit as shown
NLEDR-66130HZW

Dedicated unit as shown
NLEDC-66130BW

BW
Black Reflector
White Flange

BZBZ
Bronze Reflector
Bronze Flange

COCO
Copper Reflector
Copper Flange

CW
Clear Reflector
White Flange

HZW
Haze Reflector
White Flange

NN
Natural Metal Reflector
Natural Metal Flange

WW
White Reflector
White Flange

Baffle / Flange Finishes

Retrofit unit as shown
NLEDR-56230BZBZ

Dedicated unit as shown
NLEDC-56230WW

BW
Black Baffle
White Flange

BZBZ
Bronze Baffle
Bronze Flange

COCO
Copper Baffle
Copper Flange

NN
Natural Metal Baffle
Natural Metal Flange

WW
White Baffle
White Flange

Lighting Tip:
Compared to CFLs, LEDs come on to full brightness and are more economical to dim.

COMPATIBLE NORA HOUSINGS
NEW CONSTRUCTION

	NSIC-401QAT	4" ICAT Line Voltage
	NS-401QAT	4" AT Line Voltage
24 AT	NHIC-4G24AT	4" ICAT GU24
24 AT	NHIC-4LMRAT	4" ICAT Dedicated LED
AT	NHIC-501QAT	5" ICAT Line Voltage
	NH-501Q	5" Line Voltage
24 AT	NHIC-5G24ATFL	5" ICAT GU24
24 AT	NHIC-5LMRAT	5" ICAT Dedicated LED
AT	NHIC-17QAT	6" ICAT Line Voltage
AT	NHIC-17QNBAT	6" ICAT Line Voltage (No Bracket)
	NH-26Q	6" Line Voltage
	NH-26QNB	6" Line Voltage (No Bracket)
24 AT	NHIC-6G24ATFL	6" ICAT GU24
24 AT	NHIC-6LMRAT	6" ICAT Dedicated LED

COMPATIBLE NORA HOUSINGS
REMODEL

AT	NSR-404QAT	4" AT Line Voltage
24 AT	NHRIC-4G24AT	4" ICAT GU24
24 AT	NHRIC-4LMRAT	4" ICAT Dedicated LED
AT	NHRIC-504QAT	5" ICAT Line Voltage
	NHR-504Q	5" Line Voltage
24 AT	NHRIC-5G24ATFL	5" ICAT GU24
24 AT	NHRIC-5LMRAT	5" ICAT Dedicated LED
AT	NHRIC-17QAT	6" ICAT Line Voltage
AT	NHRIC-17QNBAT	6" ICAT Line Voltage (No Bracket)
	NHR-26Q	6" Line Voltage
24 AT	NHRIC-6G24ATFL	6" ICAT GU24
24 AT	NHRIC-6LMRAT	6" ICAT Dedicated LED