

NC-431, NC-436, NC-438

4" SAPPHERE LED High-Lumen Downlight

TRIMS

PRODUCT DESCRIPTION

The Sapphire Series is an architectural grade LED high lumen downlight. The Sapphire Series features deep cone reflectors and dimmable LEDs. Cree LEDs and Cree LED Drivers make for a solid, complete, fully tested package. The reflectors have been designed for the high efficiency (LPW) while providing low aperture brightness. The Commercial and Architectural Sapphire Series is proudly assembled in the USA.

Construction

Deep cone self flanged reflector spun from 0.050 high grade aluminum provides even illumination and visual comfort. The deep cone reflectors provide 55+ degree cut-off. NC-638 includes 3 stud mounted in flange for attaching decorative glass. Decorative glass will reduce the amount of usable light by 10 to 30% depending on the selected glass.

Reflector Assembly

The reflector assembly includes the LED optical package and heat sink mounted on top. Reflector assembly easily wires to dedicated frame with locking trim connector.

Source

CREE LED Module

Compatible Housings

Reflector is only compatible with respective Sapphire Series frame manufactured by Nora Lighting -- NCH-430 Series, NAH-430 Series, NCHR-434 Series.

Optics

- Cree True White® Technology
- Flat frosted shatterproof acrylic composite lens
- 90+ CRI
- 85 LPW LEDs producing high efficiency fixture performance
- LM-80 data
- Dimmable

Wattage:

· 850 Lumen - 11 Watts · 1250 Lumen - 16 Watts · 2000 Lumen - 25 Watts

Heat Sink

LMH2-HS2

Dimming:

[Click Here](#) or refer to www.NoraLighting.com for complete updated dimmer list in the "Compatibility" page under the "Resource" tab.

Comfort Dim

Comfort Dim color tunes the temperature from a bright 2700K, to a romantic and comfortable 1800K on a gradual, even curve.

Comfort Dim is available in 4 different lumen levels:

- 850 and 1250 Lumens for lower ceiling heights in commercial and residential applications. (Sapphire and Marquise Series)
- 2000 Lumens for lights commercial and residential high ceiling applications. (Sapphire and Marquise Series)
- 3000 Lumens for commercial applications (Sapphire Series)

Listings & Warranty

cULus Listed for Wet & Damp Location when used with compatible housing

10-Year Warranty

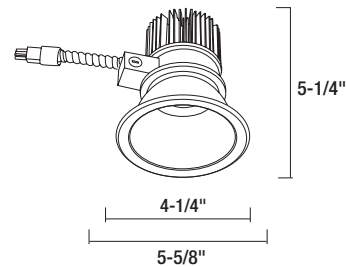
RoHS Compliant

Energy Star

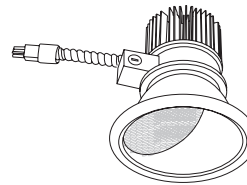


850-2000LM TRIMS:

NC-431 Reflector

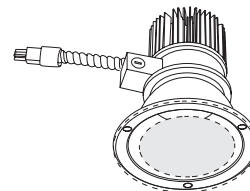


NC-436 Wall Wash



NC-438 Deco Glass

Specify glass separately



4" SAPPHERE TRIMS				
LED Sapphire Series	Lumens	Color Temp.	Reflector	Flange
NC-431 = Open Reflector	L85 = 850LM	27 = 3000K	B = Black	SF = Self Flange
NC-436 = Wall Wash	L12 = 1250LM	30 = 3000K	D = Clear Diffused	WSF = White/White Flange
NC-438 = Deco Glass*	L20 = 2000LM	35 = 3500K 40 = 4000K CD = Comfort Dim	HZ = Haze W = White	

*Deco Glass Options	
NTG-4SPH-CF	Tempered Clear Glass with Frosted Center
NTG-4SPH-FC	Tempered Clear Glass with Clear Center
NTG-4SPH-HC	Tempered Clear Glass with Frosted Center and 3-1/8" Open Center

** Comfort Dim requires ELV dimming on 850 & 1250LM, 2000LM & 3000LM. Note 2000 & 3000 require 4000LM Drivers

Housing & Trim Order Sample: NCH430/20LE1 / NC-431L204BSF

NCH-4300, NAH-430, NCHR-430
4" SAPPHIRE LED High-Lumen Downlight

HOUSINGS

PRODUCT DESCRIPTION

Architectural grade LED High Lumen Downlights featuring deep cone reflectors. Dimmable with Cree® LEDs and Cree® LED drivers for reliable performance. Comfort Dimming (2700K to 1800K) temperature. 97 Lumens per Watt and 70% Efficacy. High color rendition 90+ CRI. The Sapphire series is specifiable in 120V or 277V for commercial jobs of all sizes and offers dedicated EM housing back-ups for new construction and remodel applications.

CONSTRUCTION

Plaster Frame

Architectural quality 0.050 galvanized steel ring riveted to 0.064 steel junction box and driver tray.

Clearance

850 to 4000 lumens frames require a minimum of 3" from thermal insulation and 1/2" from adjacent building component.

Mounting: Commercial Frame

Two adjustable bar hangers with captive nails, alignment foot and T-Bar slot are included on frame. Bar hangers are parallel to junction box, but can be repositioned 90° perpendicular to junction box if desired. L-shaped bar hanger foot aligns to bottom of construction joist. A T-Bar notch allows for easy installation in a suspended ceiling.

Mounting: Architectural Frame

Vertically adjustable universal mounting brackets accept flat bar hangers, conduit or C channel. The reflector assembly is held in with 4 "butter-fly" spring clips. Reflector assembly quickly attaches with lockable quick connect. Hanger bars ordered separately.

Mounting: Remodel Frame

Designed for installation in existing ceilings. Three high-tension tempered steel spring clips secure remodel housing. The remodel frame easily wires to reflector assembly with lockable quick connect.

ELECTRICAL

Junction Box

Plaster frame integrated 29 cubic inch 0.064" thick galvanized steel, with seven 1/2" knockouts, four pryouts, and snap on cover. Electrical connections are made through a single junction box door. Green wire provided for installations with ground wire fed through PVC pipe conduit.

Thermal Protector

External thermal device is located on the junction box wrap.

Driver

· 850 Lumen - 11 Watts · 1250 Lumen - 16 Watts · 2000 Lumen - 25 Watts

The driver is an isolated driver, the isolation separates the primary side from the secondary side.

Note: Some drivers are available in Triac/0-10V. Consult Factory.

Bodine Emergency Lighting Equipment: BSL17-C2/BSL17C-C2 (for 850lm and 1250lm), BSL17C-C2P (for 2000lm and 3000lm)

- Up to 7.0W emergency illumination with LEDs.
- Illumination Time: 90min
- Voltage: 120/277 VAC, 60Hz (as specified)
- Output Voltage: 15.0-50.0 VDC

Compatible Trims

NC-431, NC-438, NC-436



Warranty

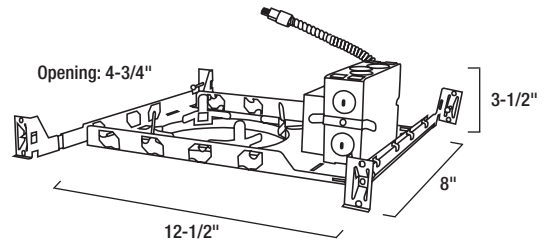
10 Year Limited Warranty



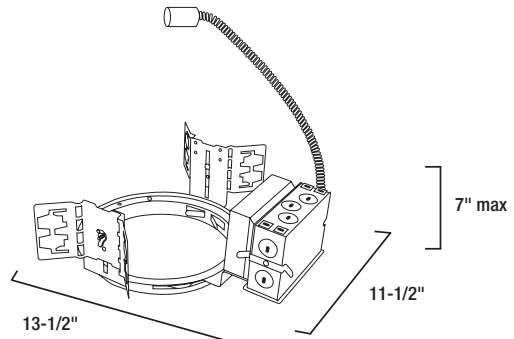
Labels and Listings

cULus Listed for Wet & Damp Location when used with compatible trim

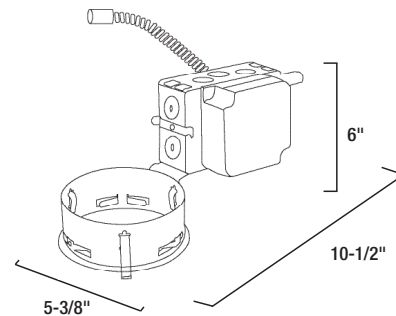
NCH COMMERCIAL FRAME



NAH ARCHITECTURAL FRAME



NCHR REMODEL FRAME



4" SAPPHIRE COMMERCIAL HOUSINGS					
Sapphire Series	Series	Lumen	Driver	Voltage	Emergency
NCH - Commercial	430 - New Const.	85 = 850LM	(Blank) - Standard	LE1 = 120V	EM - Emergency
NAH - Architectural	434 - Remodel	12 = 1200LM	C - Comfort Dim*	LE2 = 277V	Pack w/ Text
NCHR - Remodel		20 = 2000LM		LE3 = 120V	Switch
				LE4 = 120V	

* Comfort Dim requires ELV dimming on 850 & 1250LM, 2000LM & 3000LM. Note 2000 & 3000 require 4000LM Drivers
 LE1 120V 850 / 1250LM Triac/ELV Dim; 2000LM 0-10V Dim
 LE2 277V 0-10V Dim
 LE3 120V Triac/ELV Dim
 LE4 120V 0-10V Dim for 850Lm and 1250Lm

Housing & Trim Order Sample: NCH430/20LE1 / NC-431L2040BSF

4" SAPPHIRE LED High-Lumen Downlight

PHOTOMETRICS

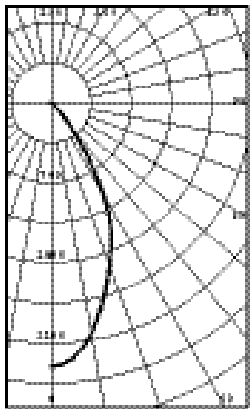
NAH-430/20LE1 / NC-431L2040DSF (25 Watt - 4000K)

Input Watts: 25W	Lumens: 1709L	CRI: 88.7	Efficacy: 67.3L/Watt	CCT: 4050K	PF: 0.989	SC: 0.8
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COEFFICIENTS OF UTILIZATION CONAL CAVITY METHOD
EFFECTIVE FLOOR CAVITY REFLECTANCE = 0.20

CC	90				80				70				50			30			10			0
WALL	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																						
0	1.22	1.22	1.22	1.22	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.17	1.14	1.12	1.10	1.15	1.12	1.10	1.08	1.12	1.10	1.08	1.06	1.06	1.05	1.03	1.02	1.01	1.00	0.99	0.98	0.97	0.96
2	1.12	1.08	1.05	1.01	1.10	1.06	1.03	1.00	1.08	1.05	1.02	0.99	1.01	0.99	0.97	0.99	0.97	0.95	0.96	0.94	0.93	0.92
3	1.08	1.02	0.98	0.94	1.06	1.01	0.97	0.94	1.04	0.99	0.96	0.93	0.97	0.94	0.92	0.95	0.92	0.90	0.93	0.91	0.89	0.88
4	1.04	0.97	0.92	0.89	1.02	0.96	0.92	0.88	1.01	0.95	0.91	0.88	0.93	0.90	0.87	0.91	0.88	0.86	0.89	0.87	0.85	0.84
5	1.00	0.92	0.87	0.83	0.98	0.91	0.86	0.83	0.96	0.90	0.86	0.83	0.89	0.85	0.82	0.87	0.84	0.81	0.86	0.83	0.81	0.79
6	0.96	0.88	0.83	0.79	0.94	0.87	0.82	0.79	0.93	0.86	0.82	0.79	0.85	0.81	0.78	0.84	0.80	0.78	0.83	0.79	0.77	0.76
7	0.91	0.83	0.78	0.75	0.90	0.83	0.78	0.75	0.89	0.82	0.78	0.74	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.76	0.73	0.72
8	0.88	0.80	0.74	0.71	0.87	0.79	0.74	0.71	0.86	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.68
9	0.84	0.76	0.70	0.66	0.83	0.75	0.70	0.66	0.82	0.74	0.70	0.66	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.65
10	0.81	0.72	0.66	0.63	0.80	0.71	0.66	0.63	0.79	0.71	0.66	0.63	0.70	0.66	0.63	0.70	0.65	0.63	0.69	0.65	0.62	0.61

INTENSITY (CANDLEPOWER) SUMMARY



Angle	Mean CP
0	2311
5	2243
10	2044
15	1776
20	1503
25	1243
30	904
35	528
40	253
45	109
50	35
55	7
60	1
65	0
70	0
75	0
80	0
85	0
90	0

LUMINACE SUMMARY CD./SQ.M.

ANGLE	MEAN CD/SQ M
45	16857
55	1293
65	42
75	0
85	0

ZONAL LUMENS & PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	1261	74.36
0-40	1595	94.03
0-60	1696	99.98
0-90	1696	100.00
40-90	101	5.97
60-90	0	0.02
90-180	0	0.00