

NC2-431 / NC2-436 / NC2-438

4" Sapphire II LED Reflectors

Source: 16W to 27W LED
900lm to 2500lm

Type

Project

Catalog No.

Notes

PRODUCT DESCRIPTION

The Sapphire II COB Series is an architectural grade LED high lumen downlight. The Sapphire II uses the latest COB technology by Cree®. The COB allows for better optic control offering 3 beam spreads. Beam spreads focus the light down to the work plane from high ceiling applications. The reflectors have been designed for the high efficiency (LPW) while providing low aperture brightness. The Sapphire II COB Series is proudly assembled in the USA.

FEATURES

- Cree® COB technology
- Shatter resistant lens
- Specifiable beam spreads
- 4" deep cone reflectors, wall wash and deco glass
- 900lm, 1500lm and 2500lm LED packages
- 2700K, 3000K, 3500K and 4000K @ 90+ CRI
- 5-year limited warranty
- cULus listed for wet locations
- ENERGY STAR certified

ELECTRICAL

Lumens / Wattage:

L09 = 900lm / 16W; **L15** = 1500lm / 18W; **L25** = 2500lm / 27W

Color Temperature: 2700K, 3000K, 3500K, 4000K

Color Rendering Index: 90+CRI

Beam Spread: (S) 37° Spot, (M) 58° Narrow Flood, (F) 74° Flood

Operating Temperature: 0° to 45°C

Lifetime: 60,000 hours @ L70

COMPATIBLE FRAME-INS

Reflector is only compatible with respective Sapphire II series frames manufactured by Nora Lighting.

CATALOG NO.	DESCRIPTION
NCAH2-430	4" Universal New Construction Frame-In
NCHR2-434	4" Remodel Frame-In

DECO GLASS OPTIONS

NC2-438 is compatible with up to two decorative glass options, sold separately. Each glass includes mounting hardware (NRA-203).

NTG-4SPH-CF 4" Tempered Clear Glass with Frosted Center

NTG-4SPH-FC 4" Tempered Frosted Glass with Clear Center

NTG-4SPH-HC 4" Tempered Clear Glass with Frosted Center and 3-1/8" Open Center

SPECIFICATION

Reflector: 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. NC2-438 includes 3 studs mounted in the 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 lockable quick connect.

LABELS AND LISTINGS

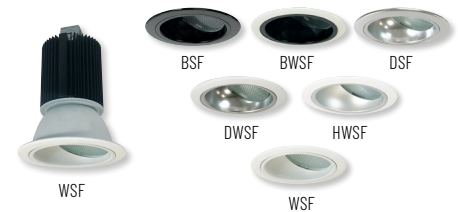
- cULus Listed for Wet Locations when used with compatible frame-in
- ENERGY STAR certified
- [5-Year Limited Warranty](#)
- RoHS Compliant
- FCC Compliant



PRODUCT IMAGES & DIMENSIONS



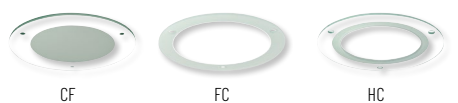
NC2-431 Open Reflector



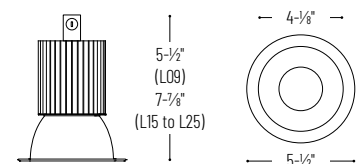
NC2-436 Wall Wash Reflector



NC2-438 Decorative Glass Reflector (Specify glass separately)



NTG-4SPH 4" Decorative Glass



4" Sapphire II LED Reflectors - Dedicated Frame-In Required

Reflector Type	Lumens / Wattage	Color Temp.	Beam Spread	Reflector / Flange Finish
NC2-431 = Open Reflector	L09 = 900lm / 16W	27 = 2700K	S = Spot	BSF = Black / Self Flanged
NC2-436 = Wall Wash	L15 = 1500lm / 18W	30 = 3000K	M = Narrow Flood	BWSF = Black / White
NC2-438 = Deco Glass*	L25 = 2500lm / 27W	35 = 3500K	F = Flood	CSF = Specular Clear / Self Flanged (not available with NC2-436)
		40 = 4000K		DSF = Clear Diffused / Self Flanged
				DWSF = Clear Diffused / White
				HSF = Haze / Self Flanged
				HWSF = Haze / White
				WSF = White / Self Flanged

*Deco Glass Option

NTG-4SPH-CF Tempered Clear Glass with Frosted Center

NTG-4SPH-FC Tempered Blue Glass with Clear Center

NTG-4SPH-HC Tempered Clear Glass with Frosted Center and 3-1/8" Open Center

Example: **NC2-431L1530WSF** = 4" Sapphire II LED Open Reflector, 1500lm / 18W LED, 3000K, Spot Beam Spread, White / Self Flange Finish

NCAH2-430

4" Sapphire II New Construction Frame-In

Source: 16W to 27W LED
900lm to 2500lm

Type

Project

Catalog No.

Notes

PRODUCT DESCRIPTION

The Sapphire II COB Series is an architectural grade LED high lumen downlight. The Sapphire II uses the latest COB technology by Cree®. The COB allows for better optic control offering 3 beam spreads. Beam spreads focus the light down to the work plane from high ceiling applications.

CONSTRUCTION

Plaster Frame: Architectural quality 0.050" galvanized steel ring riveted to 0.064" steel junction box and driver tray. Plaster frame opening includes (3) "butterfly" spring clips to hold reflector assembly in place.

Mounting: Frame-in includes two adjustable bar hangers and universal brackets that accept flat bar hangers, C-Channel (ordered separately) or rigid 1/2" conduit. Adjustable hanger bars with captive nails, alignment foot, T-Bar slot are included on frame. Frame-in includes an adjustable deep ceiling collar that accommodates ceiling thickness from 1/2" to 2-1/2".

Minimum Clearances: Frames require a minimum of 3" from thermal insulation and 1/2" from adjacent building component.

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. Junction box connects to reflector assembly with lockable quick connect.

Thermal Protector: LE3: External thermal device is located on the junction box; LE6: Thermally protected driver

Driver: Isolated driver separates the primary side from the secondary side.

ELECTRICAL

Input Voltage: 120V or 120-277V

Lumens / Wattage: L09 = 900lm / 16W; L15 = 1500lm / 18W; L25 = 2500lm / 27W

Operating Temperature: 0°C to 45°C

Dimming: Triac, ELV or 0-10V dimming

[Click Here](#) or check complete dimmer list at www.NoraLighting.com in the "Compatibility" page under "Resources" tab

COMPATIBLE REFLECTORS

CATALOG NO.	DESCRIPTION
NC2-431	4" Open Reflector
NC2-436	4" Wall Wash Reflector
NC2-438	4" Decorative Glass Reflector

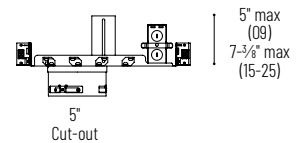
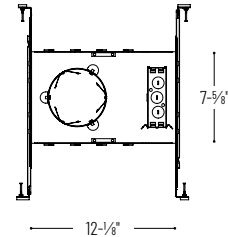
Emergency LED Driver

- Up to 7W emergency illumination with LEDs.
- Illumination Time: 90min
- Voltage: 120-277VAC, 50/60Hz
- Output Voltage: 10-60 VDC

LABELS AND LISTINGS

- cULus Listed for Damp Locations (Wet Locations when used with compatible reflector)
- [5-Year Limited Warranty](#)
- RoHS Compliant
- FCC Compliant
- Emergency LED Driver meets Title 20 CEC efficiency standards

PRODUCT IMAGES AND DIMENSIONS



4" Sapphire II New Construction Frame-In - Compatible with Sapphire II Reflectors

Lumens / Wattage	Driver	Optional Emergency
NCAH2-430/09 = 900lm / 16W	LE3 = 120V Input; Triac/ELV/0-10V dimming	EM = Emergency Pack w/ Remote Test Switch
NCAH2-430/15 = 1500lm / 18W	LE6 = 120-277V Input; 0-10V dimming	
NCAH2-430/25 = 2500lm / 27W		

Example: NCAH2-430/15LE6EM = 4" Sapphire II Universal New Construction Frame-In, 1500lm / 18W, 120-277V Input, Emergency with Remote Test Switch

NCHR2-434

4" Sapphire II Remodel Frame-In

Source: 16W to 27W LED
900lm to 2500lm

Type
Project
Catalog No.
Notes

PRODUCT DESCRIPTION

The Sapphire II COB Series is an architectural grade LED high lumen downlight. The Sapphire II uses the latest COB technology by Cree®. The COB allows for better optic control offering 3 beam spreads. Beam spreads focus the light down to the work plane from high ceiling applications.

CONSTRUCTION

Plaster Frame: Architectural quality 0.050" galvanized steel ring riveted to 0.064" steel junction box and driver tray. Remodel frame opening includes (3) "butterfly" spring clips to hold reflector assembly in place.

Mounting: Designed for installation in existing ceilings. Three high tension tempered steel springs secure remodel housings evenly to the ceiling; hole cutout template provided for convenience. Remodel frame-in accommodates ceiling thickness from 1/2" to 1-1/4".

Minimum Clearances: Frames require a minimum of 3" from thermal insulation and 1/2" from adjacent building component.

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. Junction box connects to reflector assembly with lockable quick connect.

Thermal Protector: LE3: External thermal device is located on the junction box; LE6: Thermally protected driver

Driver: Isolated driver separates the primary side from the secondary side.

ELECTRICAL

Input Voltage: 120V or 120-277V

Lumens / Wattage: L09 = 900lm / 16W; L15 = 1500lm / 18W; L25 = 2500lm / 27W

Operating Temperature: 0°C to 45°C

Dimming: Triac, ELV or 0-10V dimming

[Click Here](#) or check complete dimmer list at www.NoraLighting.com in the "Compatibility" page under "Resources" tab

COMPATIBLE REFLECTORS

CATALOG NO.	DESCRIPTION
NC2-431	4" Open Reflector
NC2-436	4" Wall Wash Reflector
NC2-438	4" Decorative Glass Reflector

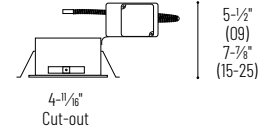
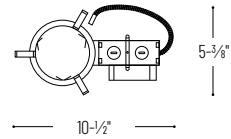
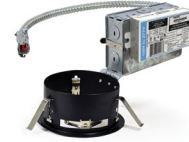
Emergency: Housing can be specified with connections for emergency battery installation. Requires top access. Must specify battery with remote test switch separately, NEPK-07LEDUNV.

LABELS AND LISTINGS

- cULus Listed for Damp Locations (Wet Locations when used with compatible reflector)
- [5-Year Limited Warranty](#)
- RoHS Compliant
- FCC Compliant
- Emergency LED Driver meets Title 20 CEC efficiency standards



PRODUCT IMAGES AND DIMENSIONS



4" Sapphire II Remodel Frame-In - Compatible with Sapphire II Reflectors

Lumens / Wattage	Driver
NCHR2-434/09 = 900lm / 16W	LE3 = 120V Input; Triac/ELV/0-10V dimming
NCHR2-434/15 = 1500lm / 18W	LE6 = 120-277V Input; 0-10V dimming
NCHR2-434/25 = 2500lm / 27W	

Optional Accessories

Description
NEPK-07LEDUNV = Remote Emergency Battery w/Test Switch

Example: **NCHR2-434/15LE6** = 4" Sapphire II Remodel Frame-In, 1500lm / 18W, 120-277V Input

PHOTOMETRICS

4" Sapphire II Series
900lm

Type

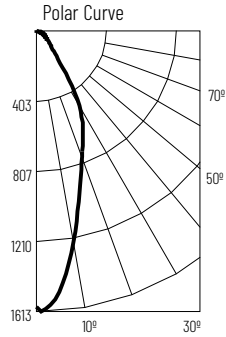
Project

Catalog No.

Notes

Test Information

Test Number: 727461
Part Number: NC2-431L0940SWSF
Beam Spread: 35° Spot
Lumens: 1095lm
Wattage: 14.89W
Efficacy: 74lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 0.56
Spacing Criteria (90°-270°): 0.54



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	98.3fc	2'-7"
6'	43.7fc	3'-11"
8'	24.6fc	5'-2"
10'	15.7fc	6'-6"
12'	10.9fc	7'-8"

Zonal Lumen Summary

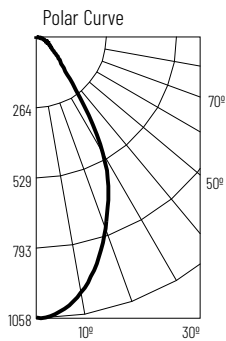
Zone	Lumens	% Luminaire
0-30	649	59.3
0-40	843	77
0-60	1004	91.7
0-90	1091	99.7
90-180	3	0.3
0-180	1095	100

Candela Table

Vertical Angles	Candela
0	1572
5	1460
15	892
25	604
35	312
45	121

Test Information

Test Number: 727477
Part Number: NC2-431L0940MWSF
Beam Spread: 59° Narrow Flood
Lumens: 1114lm
Wattage: 14.8W
Efficacy: 75lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 0.88
Spacing Criteria (90°-270°): 0.88



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	65.9fc	4'-6"
6'	29.3fc	6'-10"
8'	16.5fc	9'-1"
10'	10.6fc	11'-4"
12'	7.3fc	13'-7"

Zonal Lumen Summary

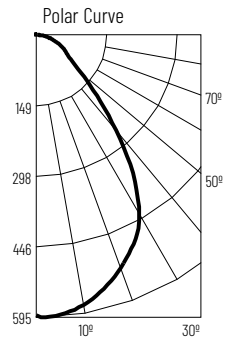
Zone	Lumens	% Luminaire
0-30	636	57.1
0-40	842	75.6
0-60	1015	91.1
0-90	1106	99.3
90-180	8	0.7
0-180	1114	100

Candela Table

Vertical Angles	Candela
0	1055
5	1033
15	872
25	647
35	325
45	135

Test Information

Test Number: 727489
Part Number: NC2-431L0940FWSF
Part Number: 74° Flood
Lumens: 949lm
Wattage: 15.06W
Efficacy: 63lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 1.1
Spacing Criteria (90°-270°): 1.06



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	37.1fc	6'
6'	16.5fc	9'
8'	9.3fc	12'-1"
10'	5.9fc	15'-1"
12'	4.1fc	18'-1"

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	427	45
0-40	634	66.8
0-60	842	88.7
0-90	943	99.3
90-180	6	0.7
0-180	949	100

Candela Table

Vertical Angles	Candela
0	593
5	587
15	546
25	478
35	335
45	167

Lumen Output Multipliers

Color Temperature: 2700K (0.84), 3000K (0.93), 3500K (0.95), 4000K (1.00)

PHOTOMETRICS

4" Sapphire II Series
1500lm

Type

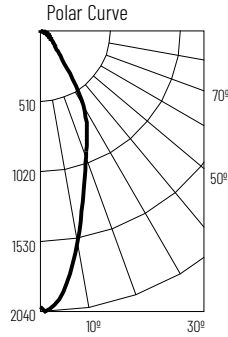
Project

Catalog No.

Notes

Test Information

Test Number: 727461
Part Number: NC2-431L1540SWSF
Beam Spread: 39° Spot
Lumens: 1499lm
Wattage: 16.7W
Efficacy: 90lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 0.62
Spacing Criteria (90°-270°): 0.62



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	126fc	2'-11"
6'	56.1fc	4'-4"
8'	31.5fc	5'-10"
10'	20.2fc	7'-2"
12'	14fc	8'-8"

Zonal Lumen Summary

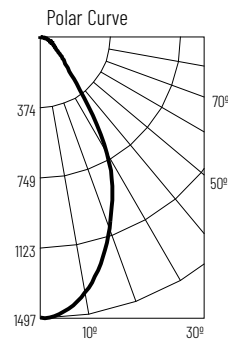
Zone	Lumens	% Luminaire
0-30	898	59.9
0-40	1160	77.4
0-60	1378	91.9
0-90	1494	99.6
90-180	5	0.4
0-180	1499	100

Candela Table

Vertical Angles	Candela
0	2019
5	1885
15	1246
25	831
35	414
45	174

Test Information

Test Number: 727477
Part Number: NC2-431L1540MWSF
Beam Spread: 58° Narrow Flood
Lumens: 1547lm
Wattage: 16.99W
Efficacy: 91lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 0.88
Spacing Criteria (90°-270°): 0.88



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	93.3fc	4'-6"
6'	41.4fc	6'-8"
8'	23.3fc	8'-11"
10'	14.9fc	11'-1"
12'	10.4fc	13'-5"

Zonal Lumen Summary

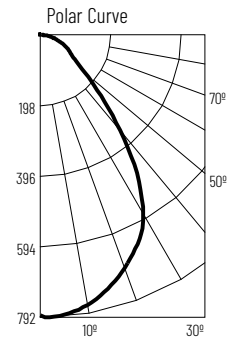
Zone	Lumens	% Luminaire
0-30	897	58
0-40	1178	76.2
0-60	1412	91.3
0-90	1535	99.2
90-180	12	0.8
0-180	1547	100

Candela Table

Vertical Angles	Candela
0	1492
5	1462
15	1240
25	906
35	440
45	182

Test Information

Test Number: 727489
Part Number: NC2-431L1540FWSF
Part Number: 74° Flood
Lumens: 1267lm
Wattage: 16.87W
Efficacy: 75lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 1.1
Spacing Criteria (90°-270°): 1.12



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	49.4fc	6'-1"
6'	22fc	9'-1"
8'	12.4fc	12'-1"
10'	7.9fc	15'-2"
12'	5.5fc	18'-2"

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	572	45.2
0-40	853	67.3
0-60	1133	89.4
0-90	1262	99.6
90-180	5	0.4
0-180	1267	100

Candela Table

Vertical Angles	Candela
0	791
5	785
15	731
25	640
35	453
45	224

Lumen Output Multipliers

Color Temperature: 2700K (0.84), 3000K (0.93), 3500K (0.95), 4000K (1.00)

PHOTOMETRICS

4" Sapphire II Series
2500lm

Type

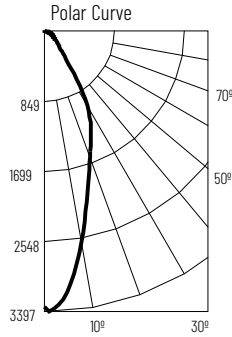
Project

Catalog No.

Notes

Test Information

Test Number: 727461
Part Number: NC2-431L2540SWSF
Beam Spread: 38° Spot
Lumens: 2389lm
Wattage: 29.3W
Efficacy: 81lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 0.6
Spacing Criteria (90°-270°): 0.6



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	209fc	2'-10"
6'	92.8fc	4'-2"
8'	52.2fc	5'-7"
10'	33.4fc	7'
12'	23.2fc	8'-5"

Zonal Lumen Summary

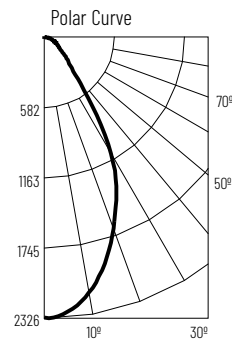
Zone	Lumens	% Luminaire
0-30	1450	60.7
0-40	1847	77.3
0-60	2181	91.3
0-90	2369	99.2
90-180	20	0.8
0-180	2389	100

Candela Table

Vertical Angles	Candela
0	3340
5	3152
15	2018
25	1340
35	621
45	251

Test Information

Test Number: 727477
Part Number: NC2-431L2540MWSF
Beam Spread: 58° Narrow Flood
Lumens: 2412lm
Wattage: 29.3W
Efficacy: 82lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 0.88
Spacing Criteria (90°-270°): 0.88



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	145fc	4'-6"
6'	64.5fc	6'-8"
8'	36.3fc	8'-11"
10'	23.2fc	11'-2"
12'	16.1fc	13'-5"

Zonal Lumen Summary

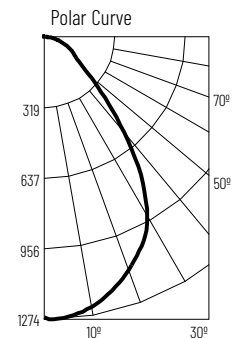
Zone	Lumens	% Luminaire
0-30	1394	57.8
0-40	1831	75.9
0-60	2199	91.2
0-90	2392	99.2
90-180	20	0.8
0-180	2412	100

Candela Table

Vertical Angles	Candela
0	2321
5	2281
15	1935
25	1418
35	693
45	286

Test Information

Test Number: 727489
Part Number: NC2-431L2540FWSF
Part Number: 73° Flood
Lumens: 1998lm
Wattage: 29.5W
Efficacy: 68lpw
CCT / CRI: 4000K / 90 CRI
Spacing Criteria (0°-180°): 1.16
Spacing Criteria (90°-270°): 1.14



Illuminance at a Distance

Distance from Luminaire	FC at Nadir	Beam Diameter
4'	79fc	5'-11"
6'	35.1fc	8'-11"
8'	19.7fc	11'-10"
10'	12.6fc	14'-10"
12'	8.8fc	17'-8"

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	905	45.3
0-40	1334	66.7
0-60	1763	88.2
0-90	1973	98.7
90-180	25	1.3
0-180	1998	100

Candela Table

Vertical Angles	Candela
0	1264
5	1264
15	1197
25	1060
35	797
45	412

Lumen Output Multipliers

Color Temperature: 2700K (0.84), 3000K (0.93), 3500K (0.95), 4000K (1.00)