

## NCR-81 / NCR-86 / NCR-88

8" Sapphire | CofRetrofit Downlight

Source: 11W to 37W LED

850lm to 3000lm

Type

Project

Catalog No.

Notes

### PRODUCT DESCRIPTION

The Sapphire Retrofit Series is an architectural grade LED high lumen replacement. Using existing commercial or architectural frame-ins, replace old light source and reflectors with the latest LED technology. Each luminaire includes flexible conduit and junction box with dimmable drivers. Cree Comfort Dim technology with the highest performing commercially available LEDs and mixes in complementary light from red and unsaturated yellow LEDs to create beautiful, warm, white light. This patented approach enables precise color management to preserve reliable high color consistency over the life of the product.

### FEATURES

- Retrofit existing architectural or commercial frame-ins with the latest LED technology
- Over 80% energy savings when compared to incandescent
- Cree Comfort Dim Technology
- 850lm, 1250lm, 2000lm and 3000lm LED packages
- Gradually warms the color temperature from 2700K to 1800K when dimmed
- 10-year limited warranty
- ENERGY STAR certified
- cULus classified for Wet Locations

### ELECTRICAL

**Delivered Lumens / Wattage:** 85 = 769lm / 11W; 12 = 984lm / 16W; 20 = 1831lm / 25W; 30 = 2505lm / 37W

(Delivered lumens will vary depending on reflector and finish)

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

**CRI:** 90+ CRI

**Beam Spread:** 79° Flood

**Operating Temp.:** 0°C to 45°C ambient temperature

**Lifetime:** 36,300 hours @ L70

**Dimming:** ELV or 0-10V dimming

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

### COMPATIBLE FRAME-INS

Reflector assembly is compatible with Nora 8" Commercial and Architectural Frames.

NHP8U, NH8PU, NHRP8U, NHPV-8, NH8PV, NHRPV-8, NHFM8, NHFM-9, NHRFM8, NHAHV-8, NH-300, NHR-300

### 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. NCR-88 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 is connected to junction box and dimmable driver. Junction box easily wires to input voltage with wire nuts (included). Ceiling thickness varies by frame-in.

### LABELS AND LISTINGS

- cULus classified for Wet Location
- ENERGY STAR certified
- [10-Year Limited Warranty](#)
- RoHS Compliant



### PRODUCT IMAGES



NCR-81 Open Reflector

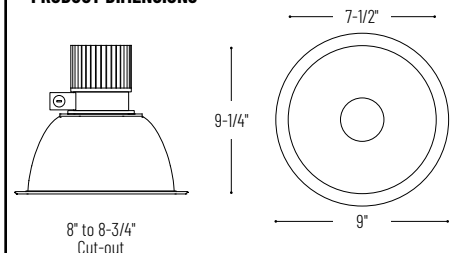


NCR-86 Wall Wash Reflector



NCR-88 Decorative Glass Reflector  
(Specify glass separately)

### PRODUCT DIMENSIONS



## 8" Sapphire | Comfort Dim Retrofit Reflectors

| Reflector Type          | Lumens / Wattage  | Color Temp.                    | Driver                                                  | Reflector / Flange Finish           |
|-------------------------|-------------------|--------------------------------|---------------------------------------------------------|-------------------------------------|
| NCR-81 = Open Reflector | 85 = 850lm / 11W  | CD = Comfort Dim (2700K-1800K) | E1 = 120V Input; ELV (850-1250lm) / 0-10V (2000-3000lm) | BSF = Black / Self Flanged          |
| NCR-86 = Wall Wash      | 12 = 1250lm / 16W |                                | E2 = 277V Input; 0-10V dimming                          | BWF = Black / White Flange          |
| NCR-88 = Deco Glass*    | 20 = 2000lm / 25W |                                | E4 = 120V Input; ELV (2000-3000lm) / 0-10V (850-1250lm) | DSF = Clear Diffused / Self Flanged |
|                         | 30 = 3000lm / 37W |                                |                                                         | DWF = Clear Diffused / White Flange |
|                         |                   |                                |                                                         | HSF = Haze / Self Flanged           |
|                         |                   |                                |                                                         | HWF = Haze / White Flange           |
|                         |                   |                                |                                                         | WSF = White / Self Flanged          |

### \* Deco Glass Option

|            |                                                                 |
|------------|-----------------------------------------------------------------|
| NTG-8B/167 | Tempered Blue Glass with 6-5/8" Open Center                     |
| NTG-8B/80  | Tempered Blue Glass with 3-1/8" Open Center                     |
| NTG-8CF    | Tempered Clear Glass with Frosted Center                        |
| NTG-8FC    | Tempered Frosted Glass with Clear Center                        |
| NTG-8HC    | Tempered Clear Glass with Frosted Center and 3-1/8" Open Center |

Example: NCR-8120CDEWSF = 8" Sapphire | High Lumen Retrofit Open Reflector, 2000lm / 25W LED, Comfort Dim (2700K-1800K), 120V input; 0-10V dimming, White / Self Flange Finish

# PHOTOMETRICS

## 8" Sapphire | Comfort Dim Retrofit Series

Type

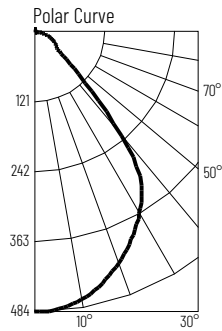
Project

Catalog No.

Notes

### Test Information

Test Number: NTR11435  
Part Number: NCR-8185CDWSF  
Lumens: 761lm  
Wattage: 10.63W  
Efficacy: 72lpw  
CCT / CRI: 2700K / 90 CRI  
Beam Spread: 79°  
Spacing Criteria (0°-180°): 1.14  
Spacing Criteria (90°-270°): 1.16



### Illuminance at a Distance

| Distance from Luminaire | FC at Nadir | Beam Diameter |
|-------------------------|-------------|---------------|
| 4'                      | 30.2fc      | 6'-7"         |
| 6'                      | 13.4fc      | 9'-11"        |
| 8'                      | 7.5fc       | 13'-2"        |
| 10'                     | 4.8fc       | 16'-7"        |
| 12'                     | 3.4fc       | 19'-11"       |

### Zonal Lumen Summary

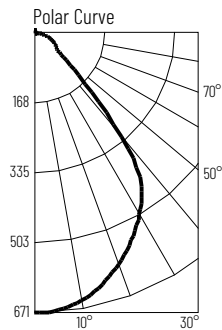
| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 356    | 46.8        |
| 0-40   | 552    | 72.6        |
| 0-60   | 691    | 90.9        |
| 0-90   | 754    | 99.1        |
| 90-180 | 7      | 0.9         |
| 0-180  | 761    | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 483     |
| 5               | 480     |
| 15              | 452     |
| 25              | 399     |
| 35              | 328     |
| 45              | 110     |

### Test Information

Test Number: NTR11434  
Part Number: NCR-8112CDWSF  
Lumens: 989lm  
Wattage: 15.5W  
Efficacy: 64lpw  
CCT / CRI: 2700K / 90 CRI  
Beam Spread: 78°  
Spacing Criteria (0°-180°): 1.12  
Spacing Criteria (90°-270°): 1.12



### Illuminance at a Distance

| Distance from Luminaire | FC at Nadir | Beam Diameter |
|-------------------------|-------------|---------------|
| 4'                      | 40.5fc      | 6'-6"         |
| 6'                      | 18fc        | 9'-10"        |
| 8'                      | 10.1fc      | 13'           |
| 10'                     | 6.5fc       | 16'-4"        |
| 12'                     | 4.5fc       | 19'-6"        |

### Zonal Lumen Summary

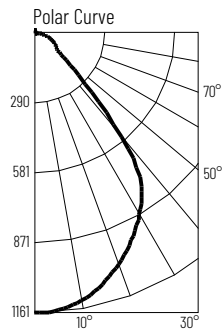
| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 472    | 47.7        |
| 0-40   | 728    | 73.6        |
| 0-60   | 902    | 91.2        |
| 0-90   | 981    | 99.2        |
| 90-180 | 8      | 0.8         |
| 0-180  | 989    | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 648     |
| 5               | 644     |
| 15              | 602     |
| 25              | 525     |
| 35              | 424     |
| 45              | 143     |

### Test Information

Test Number: NTR11432  
Part Number: NCR-83120CDWSF  
Lumens: 1831lm  
Wattage: 25.98W  
Efficacy: 70lpw  
CCT / CRI: 2700K / 90 CRI  
Beam Spread: 79°  
Spacing Criteria (0°-180°): 1.14  
Spacing Criteria (90°-270°): 1.14



### Illuminance at a Distance

| Distance from Luminaire | FC at Nadir | Beam Diameter |
|-------------------------|-------------|---------------|
| 4'                      | 72.6fc      | 6'-7"         |
| 6'                      | 32.3fc      | 9'-11"        |
| 8'                      | 18.1fc      | 13'-4"        |
| 10'                     | 11.6fc      | 16'-7"        |
| 12'                     | 8.1fc       | 19'-11"       |

### Zonal Lumen Summary

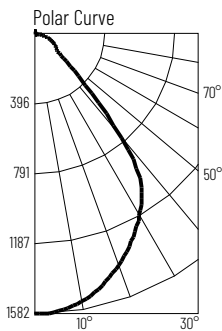
| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 346    | 46.2        |
| 0-40   | 1312   | 71.7        |
| 0-60   | 1660   | 90.7        |
| 0-90   | 1812   | 99          |
| 90-180 | 19     | 1           |
| 0-180  | 1831   | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 1161    |
| 5               | 1152    |
| 15              | 1076    |
| 25              | 944     |
| 35              | 768     |
| 45              | 301     |

### Test Information

Test Number: NTR11433  
Part Number: NCR-8130CDWSF  
Lumens: 2505lm  
Wattage: 34.83W  
Efficacy: 72lpw  
CCT / CRI: 2700K / 90 CRI  
Beam Spread: 79°  
Spacing Criteria (0°-180°): 1.14  
Spacing Criteria (90°-270°): 1.14



### Illuminance at a Distance

| Distance from Luminaire | FC at Nadir | Beam Diameter |
|-------------------------|-------------|---------------|
| 6'                      | 43.9fc      | 9'-11"        |
| 9'                      | 19.5fc      | 14'-11"       |
| 12'                     | 11fc        | 19'-11"       |
| 15'                     | 7fc         | 24'-10"       |
| 18'                     | 4.9fc       | 29'-10"       |

### Zonal Lumen Summary

| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 1159   | 46.3        |
| 0-40   | 1798   | 71.7        |
| 0-60   | 2271   | 90.6        |
| 0-90   | 2477   | 98.9        |
| 90-180 | 28     | 1.1         |
| 0-180  | 2505   | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 1582    |
| 5               | 1573    |
| 15              | 1474    |
| 25              | 1296    |
| 35              | 1056    |
| 45              | 406     |