

# NCR3-81 / NCR3-86 / NCR3-88

## 8" Sapphire III High Lumen Retrofit Downlight

Source: 13W to 60W  
900lm to 5500lm

|             |
|-------------|
| Type        |
| Project     |
| Catalog No. |
| Notes       |

### PRODUCT DESCRIPTION

Sapphire III COB retrofit luminaires are 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 a junction box and dimmable driver. The Sapphire III utilizes Signify® Fortimo COB LED technology for better optic control with three specified 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. Sapphire III luminaires are proudly assembled in the USA and a perfect solution for lobbies, corridors, offices and conference rooms.

### FEATURES

- Retrofit existing architectural or commercial frame-ins
- Over 80% energy savings when compared to incandescent
- Signify® Fortimo COB LED technology
- Specifiable beam spreads

### 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. NCR3-88 includes three 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). Luminaire accommodates ceiling thickness from 3/8" to 1-1/2".

**Decorative Glass:** NCR3-88 is compatible with up to two decorative glass options (ordered separately). Each glass includes mounting hardware (NRA-203).

- NTG-8B/80** 8" Tempered Blue Glass with 3-1/8" Open Center
- NTG-8CF** 8" Tempered Clear Glass with Frosted Center
- NTG-8FC** 8" Tempered Frosted Glass with Clear Center

### COMPATIBLE FRAME-INS

Reflector assembly is compatible with 8" Commercial and Architectural Frame-Ins.

### LABELS AND LISTINGS

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



### PRODUCT IMAGES & DIMENSIONS



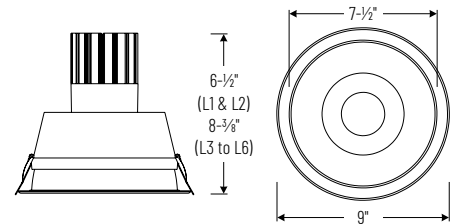
**NCR3-81**  
Open Reflector



**NCR3-86**  
Wall Wash Reflector



**NCR3-88**  
Decorative Glass Reflector  
(Specify glass separately)



| ELECTRICAL                   | L1                                      | L2          | L3               | L4          | L5          | L6          |
|------------------------------|---|-------------|------------------|-------------|-------------|-------------|
| <b>Input Voltage</b>         | 120VAC or 120-277VAC                    |             | 120VAC or 277VAC |             |             |             |
| <b>Input Power</b>           | 13W max.                                | 18W max.    | 26W max.         | 38W max.    | 46W max.    | 60W max.    |
| <b>Delivered Lumens</b>      | 900lm                                   | 1500lm      | 2500lm           | 3500lm      | 4500lm      | 5500lm      |
| <b>Color Temperature</b>     | 2700K, 3000K, 3500K or 4000K            |             |                  |             |             |             |
| <b>Color Rendering Index</b> | 90+ CRI                                 |             |                  |             |             |             |
| <b>Beam Spread</b>           | 38° Spot, 57° Narrow Flood or 78° Flood |             |                  |             |             |             |
| <b>Dimming</b>               | Triac/ELV or 0-10V                      |             |                  |             |             |             |
| <b>Operating Temperature</b> | 0°C to 40°C                             | 0°C to 40°C | 0°C to 35°C      | 0°C to 35°C | 0°C to 25°C | 0°C to 25°C |
| <b>Lifetime</b>              | 50,000 hours @ L70                      |             |                  |             |             |             |

### 8" Sapphire III Retrofit Reflectors

| Reflector Type                  | Lumens / Wattage         | CCT               | Beam Spread             | Input Voltage / Dimming Type                       | Reflector / Flange Finish  |
|---------------------------------|--------------------------|-------------------|-------------------------|--|--|
| <b>NCR3-81</b> = Open Reflector | <b>L1</b> = 900lm / 13W  | <b>27</b> = 2700K | <b>S</b> = Spot         | <b>P01</b> = 120V input; Phase Dimming (Triac/ELV) | <b>BB</b> = Black Reflector / Black Flange                           |
| <b>NCR3-86</b> = Wall Wash      | <b>L2</b> = 1500lm / 18W | <b>30</b> = 3000K | <b>N</b> = Narrow Flood | <b>C12</b> = 120-277V input; 0-10V Dimming         | <b>BMPW</b> = Black Reflector / Matte Powder White Flange            |
| <b>NCR3-88</b> = Deco Glass*    | <b>L3</b> = 2500lm / 26W | <b>35</b> = 3500K | <b>F</b> = Flood        | <b>P01</b> = 120V input; Phase Dimming (Triac/ELV) | <b>CC</b> = Specular Clear Reflector / Specular Clear Flange †       |
|                                 | <b>L4</b> = 3500lm / 38W | <b>40</b> = 4000K |                         | <b>C01</b> = 120V input; 0-10V Dimming             | <b>DD</b> = Clear Diffused Reflector / Clear Diffused Flange †       |
|                                 | <b>L5</b> = 4500lm / 46W |                   |                         | <b>C02</b> = 277V input; 0-10V Dimming             | <b>DMPW</b> = Clear Diffused Reflector / Matte Powder White Flange † |
|                                 | <b>L6</b> = 5500lm / 60W |                   |                         |  | <b>HZ</b> = Haze Reflector / Haze Flange †                           |
|                                 |                          |                   |                         |  | <b>HZMPW</b> = Haze Reflector / Matte Powder White Flange †          |
|                                 |                          |                   |                         |  | <b>MPW</b> = Matte Powder White Reflector & Flange                   |

#### \* Decorative Glass Option

- 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

Example: **NCR3-81L635NCO2MPW** = 8" Sapphire III Retrofit Reflector, 5500lm / 60W, 3500K, Narrow Flood Beam Spread, 277V input; 0-10V dimming, Matte Powder White Reflector / Matte Powder White Flange

# PHOTOMETRICS

## 8" Sapphire III High Lumen Retrofit Downlight 5500lm / 60W

Type

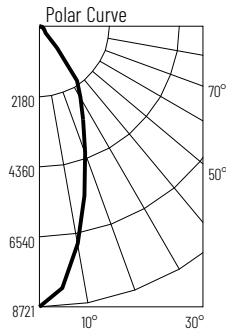
Project

Catalog No.

Notes

### Test Information

Test Number: NTR2368R1  
Part Number: NCR3-81L640SCO1MPW  
Beam Spread: 38° Spot  
Lumens: 5778lm  
Wattage: 56.66W  
Efficacy: 102lpw  
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 |
|-------------------------|-------------|---------------|
| 8'                      | 136fc       | 5'-7"         |
| 12'                     | 60.6fc      | 8'-5"         |
| 16'                     | 34.1fc      | 11'-2"        |
| 20'                     | 21.8fc      | 14'           |
| 24'                     | 15.1fc      | 16'-10"       |

### Zonal Lumen Summary

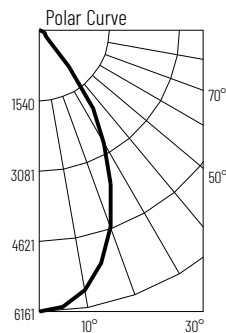
| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 3776   | 65.4        |
| 0-40   | 4971   | 86          |
| 0-60   | 5506   | 95.3        |
| 0-90   | 5778   | 100         |
| 90-180 | 0      | 0           |
| 0-180  | 5778   | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 8721    |
| 5               | 8166    |
| 15              | 5452    |
| 25              | 3212    |
| 35              | 2073    |
| 45              | 284     |

### Test Information

Test Number: NTR2369R1  
Part Number: NCR3-81L640NCO1MPW  
Beam Spread: 57° Narrow Flood  
Lumens: 5818lm  
Wattage: 56.7W  
Efficacy: 103lpw  
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 |
|-------------------------|-------------|---------------|
| 8'                      | 96.3fc      | 8'-8"         |
| 12'                     | 42.8fc      | 13'-1"        |
| 16'                     | 24.1fc      | 17'-6"        |
| 20'                     | 15.4fc      | 21'-11"       |
| 24'                     | 10.7fc      | 26'-2"        |

### Zonal Lumen Summary

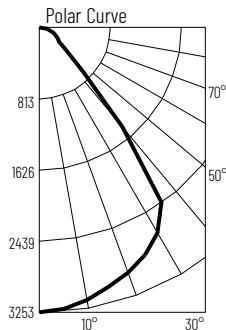
| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 3735   | 64.2        |
| 0-40   | 5017   | 86.2        |
| 0-60   | 5552   | 95.4        |
| 0-90   | 5818   | 100         |
| 90-180 | 0      | 0           |
| 0-180  | 5784   | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 6161    |
| 5               | 6074    |
| 15              | 5281    |
| 25              | 3712    |
| 35              | 2079    |
| 45              | 327     |

### Test Information

Test Number: NTR2370R1  
Part Number: NCR3-81L640FCO1MPW  
Beam Spread: 78° Flood  
Lumens: 5140lm  
Wattage: 56.29W  
Efficacy: 91lpw  
CCT / CRI: 4000K / 90 CRI  
Spacing Criteria (0°-180°): 1.24  
Spacing Criteria (90°-270°): 1.22



### Illuminance at a Distance

| Distance from Luminaire | FC at Nadir | Beam Diameter |
|-------------------------|-------------|---------------|
| 8'                      | 50.8fc      | 13'-1"        |
| 12'                     | 22.6fc      | 19'-7"        |
| 16'                     | 12.7fc      | 26'-1"        |
| 20'                     | 8.1fc       | 32'-7"        |
| 24'                     | 5.7fc       | 39'-2"        |

### Zonal Lumen Summary

| Zone   | Lumens | % Luminaire |
|--------|--------|-------------|
| 0-30   | 2479   | 48.2        |
| 0-40   | 3867   | 75.2        |
| 0-60   | 4749   | 92.4        |
| 0-90   | 5140   | 100         |
| 90-180 | 0      | 0           |
| 0-180  | 5140   | 100         |

### Candela Table

| Vertical Angles | Candela |
|-----------------|---------|
| 0               | 3253    |
| 5               | 3226    |
| 15              | 3070    |
| 25              | 2864    |
| 35              | 2439    |
| 45              | 722     |

### Lumen Output Multipliers

Lumen Package: L1 (0.18), L2 (0.25), L3 (0.47), L4 (0.67), L5 (0.8), L6 (1.00)  
Color Temperature: 2700K (0.5), 3000K (0.91), 3500K (0.97), 4000K (1.00)  
Reflector Finish: Black (0.68), Specular Clear (1.06), Diffused (1.08), Haze (0.96), Matte Powder White (1.00)