

# ND22 Modular, Optics-Adjustable Downlights



12, 20, 30 & 50W; 1200-4500 lumens; 3, 4, 6, 8 & 10";  
Round, square, wall wash; universal dimming



PROJECT:

DATE:

TYPE:

PREPARED BY:



## KEY FEATURES

- Modular commercial downlight with interchangeable twist-lock trims
- 3 selectable brightness levels & 5 selectable CCTs (2700/3000/3500/4000/5000K)
- Available in 12W (1,000lm), 20W (1,850lm), 30W (2,800lm), and 50W (4,700lm) LED modules
- Adjustable 25° to 45° (12, 20, 30W) beam angle or 30° to 50° (50W) by rotating the lens assembly
- Twist-lock trims are available in:  
12W - 3", 4", & 6" sizes  
20/30W - 4", 6" & 8" sizes  
50W - 6", 8", & 10" sizes
- Trim finishes available in White, Black, Haze, and Haze reflector and White Flange
- Round trims available in open flanged & wall wash. Square trims available in open flanged.
- 120-277V Driver, compatible on TRIAC/ELV & 0-10V dimmers

## PERFORMANCE

| LED Light Engine             | Wattage    | Lumens                       | Efficacy (lm/W) | Beam Angle                         | Input Voltage | Dimming                      |            |
|------------------------------|------------|------------------------------|-----------------|------------------------------------|---------------|------------------------------|------------|
| ND22-12                      | 7W         | 641                          | 94              | 25° to 45°                         | 120-277V      | TRIAC/ELV/<br>0-10V          |            |
|                              | 9W         | 797                          | 93              |                                    |               |                              |            |
|                              | 12W        | 1016                         | 93              |                                    |               |                              |            |
| ND22-20                      | 12W        | 1253                         | 106             |                                    |               |                              |            |
|                              | 16W        | 1576                         | 101             |                                    |               |                              |            |
|                              | 20W        | 1909                         | 98              |                                    |               |                              |            |
| ND22-30                      | 18W        | 1930                         | 109             |                                    |               |                              |            |
|                              | 24W        | 2477                         | 104             |                                    |               |                              |            |
|                              | 30W        | 2901                         | 101             |                                    |               |                              |            |
| ND22-50                      | 30W        | 3192                         | 110             | 30° to 50°                         |               |                              |            |
|                              | 40W        | 4006                         | 104             |                                    |               |                              |            |
|                              | 50W        | 4708                         | 102             |                                    |               |                              |            |
| Reflector Finish Multiplier  |            |                              |                 |                                    |               |                              |            |
| Finish                       | Multiplier | Finish                       | Multiplier      | Finish                             | Multiplier    | Finish                       | Multiplier |
| W = White Reflector + Flange | 1          | HZ = Haze Reflector + Flange | 1.027           | HW = Haze Reflector + White Flange | 1.02          | B = Black Reflector + Flange | 0.9        |

# ND22 Modular, Optics-Adjustable Downlights



## TECHNICAL SPECIFICATIONS

### CONSTRUCTION

#### Product Type

Modular LED Commercial Downlight

#### Trim Sizes

12W - 3", 4", 6"

20W/30W - 4", 6", 8"

50W - 6", 8", 10"

#### Trim Style

Smooth reflector constructed from anodized aluminum with powder coated paint finish

#### Trim Finishes

White Flange + White Reflector, Haze Flange + Haze Reflector, White Flange + Haze Reflector, Black Flange + Black Reflector

#### Light Engine

Die-cast aluminum heat sink with integrated driver. 27" flexible MC whip cable for installation onto junction box.

#### Lens

Rotatable TIR Optic to adjust beam angle with a translucent frosted finish for superior light diffusion.

### ELECTRICAL

#### Dimmable

Yes, dimmable down to 10% on compatible TRIAC/ELV on 120V and 0-10V on 120-277V dimming systems.

#### Driver

120-277V Universal Voltage Class 2 Driver

#### Operating Frequency

50/60 Hz

#### Operating Temperature

-4°F to 140°F

#### THD

≤25%

#### Power Factor

≥0.9/120V

≥0.7/277V

#### Flicker

≤30%

#### Controls

Compatible with Lightcloud Blue, (LCBAUX[-X]/[W/B] sold separately. Learn more about [Lightcloud Blue](#).

### INSTALLATION

#### Set up

Step 1: Choose the Light Engine

Step 2: Choose the Trim Style

Step 3: (Optional) Choose a new construction housing

Step 4: (Optional) Choose an EM Battery or Lightcloud Blue Controller

#### Mounting

Can be used in Retrofit, Remodel, or New Construction Installations. Can accommodate up to 2" ceiling thickness.

### COMPLIANCE

#### Listings

UL Listed, UL Classified

#### Environment

Suitable for use indoors and outdoors in dry, damp, or wet environments.

#### Air Tight

Housing Certified Air Tight as per ASTM E283.

#### Energy Star Approved

This product is ENERGY STAR Version 1.0 Certified.

#### California Title 24 JA8 Compliant

Can be used to conform with the requirements of California Title 24 Part 6.

#### California Energy Commission (CEC)

Lawful for Sales in California.

#### IESNA LM-79 & LM80 Testing

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

#### RoHS

Mercury and UV free. RoHS-compliant components.

#### FCC

Complies with Part 15 of the FCC Rules.

### LED CHARACTERISTICS

#### Beam Angle

Adjustable 25° to 45° (12,20,30W) beam angle or 30° to 50° (50W) by rotating the lens assembly

#### Color Temperature

27/30/35/40/50K \*4000K Factory Default Setting

#### Color Accuracy (CRI)

>90

#### Color Consistency

<7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

#### Color Stability

LED color temperature is warranted to shift no more than 200K in color temperature over a 5-year period

#### Color Uniformity

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017

### OTHER

#### Warranty

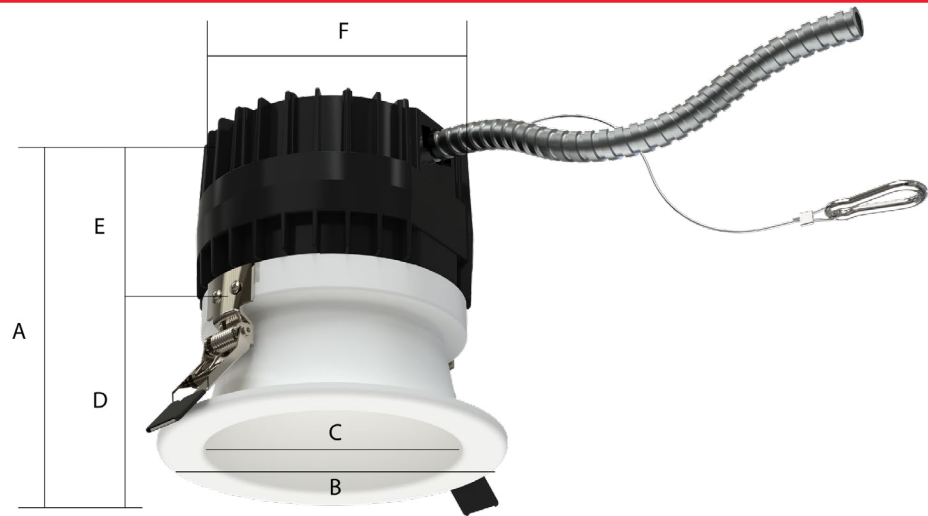
The RAB 5-year, no compromise warranty covers light output, driver performance and paint finish.

RAB's warranty is subject to all terms and conditions found at [rablighting.com/warranty](#).

# ND22 Modular, Optics-Adjustable Downlights



## DIMENSIONS



| LED Module | Reflector Size | Fixture Height | Outer Diameter | Inner Diameter | Reflector Depth | Module Height | Module Diameter | Hole Cutout |
|------------|----------------|----------------|----------------|----------------|-----------------|---------------|-----------------|-------------|
| 12W        |                | A              | B              | C              | D               | E             | F               | G           |
|            | 3" round/wash  | 5 1/16"        | 4 1/4"         | 3 1/16"        | 1 1/2"          | 3 9/16"       | 3 5/16"         | 3 7/16"     |
|            | 4" round/wash  | 5 3/8"         | 7 3/4"         | 4 1/16"        | 1 3/4"          | 3 9/16"       | 3 5/16"         | 4 15/16"    |
|            | 6" round/wash  | 5 11/16"       | 7 1/16"        | 5 1/4"         | 2 1/8"          | 3 9/16"       | 3 5/16"         | 6 5/16"     |
|            | 3" square      | 5 1/6"         | 4 3/4"         | 2 13/16"       | 1 1/2"          | 3 9/16"       | 3 5/16"         | 3 7/16"     |
|            | 4" square      | 5 5/6"         | 7 3/4"         | 4"             | 1 3/4"          | 3 9/16"       | 3 5/16"         | 4 15/16"    |
|            | 6" square      | 5 11/16"       | 7 1/16"        | 5 3/16"        | 2 1/8"          | 3 9/16"       | 3 5/16"         | 6 5/16"     |
| 20W/30W    | 4" round       | 5 3/8"         | 5 1/2"         | 4 1/16"        | 2"              | 3 7/16"       | 4 9/16"         | 4 15/16"    |
|            | 6" round/wash  | 6"             | 7 1/16"        | 5 1/14"        | 2 9/16"         | 3 7/16"       | 4 9/16"         | 6 5/16"     |
|            | 8" round/wash  | 6 1/2"         | 9 1/16"        | 7 1/16"        | 3 1/6"          | 3 7/16"       | 4 9/16"         | 7 1/2"      |
|            | 10" round/wash | 7 1/16"        | 11"            | 10 3/4"        | 3 5/8"          | 3 7/16"       | 4 9/16"         | 9 7/16"     |
|            | 4" square      | 5 3/8"         | 7 3/4"         | 4"             | 2 3/16"         | 3 7/16"       | 4 9/16"         | 4 15/16"    |
|            | 6" square      | 6"             | 7 1/16"        | 5 3/16"        | 2 9/16"         | 3 7/16"       | 4 9/16"         | 6 5/6"      |
|            | 8" square      | 6 1/2"         | 9 1/16"        | 7 3/16"        | 3 1/16"         | 3 7/16"       | 4 9/16"         | 7 1/2"      |

# ND22 Modular, Optics-Adjustable Downlights



## DIMENSIONS (Cont'd)

| LED Module | Reflector Size | Fixture Height | Outer Diameter | Inner Diameter | Reflector Depth | Module Height | Module Diameter | Hole Cutout |
|------------|----------------|----------------|----------------|----------------|-----------------|---------------|-----------------|-------------|
| 50W        | 6" round/wash  | 5 15/16"       | 7 1/16"        | 5 1/4"         | 2 9/16"         | 3 6/16"       | 5 11/16"        | 6 5/16"     |
|            | 8" round/wash  | 6 7/16"        | 9 1/16"        | 7 1/16"        | 3 1/6"          | 3 6/16"       | 5 11/16"        | 7 1/2"      |
|            | 10" round/wash | 7"             | 11"            | 10 3/4"        | 3 10/16"        | 3 6/16"       | 5 11/16"        | 9 7/16"     |
|            | 6" square      | 6"             | 7 1/6"         | 5 3/16"        | 2 9/16"         | 3 6/16"       | 5 11/16"        | 6 5/16"     |
|            | 8" square      | 6 7/16"        | 9 1/16"        | 7 3/16"        | 3 1/6"          | 3 6/16"       | 5 11/16"        | 7 1/2"      |

## TRIM REFLECTORS



Round



Wall Wash



Square

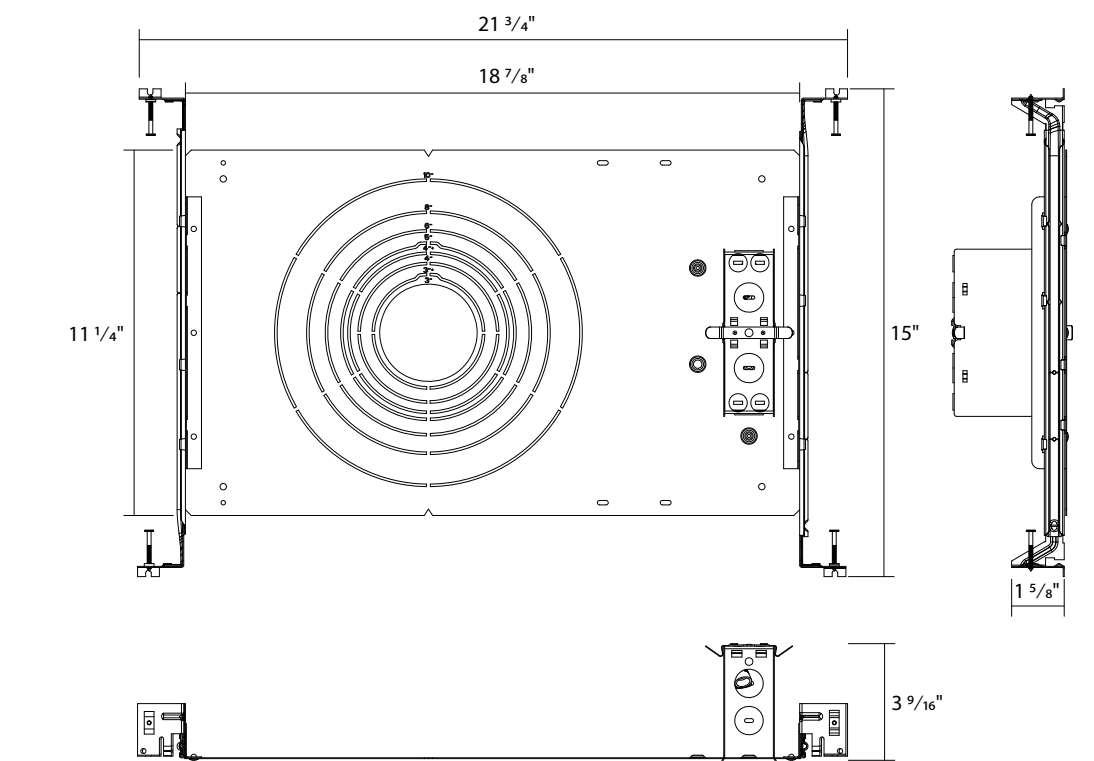
| Size | Round Trims | Square Trims | Round Wall Wash Trims | Available Finishes                                                                                                                |
|------|-------------|--------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 3"   | ND22T-3RX   | ND22T-3RX    | ND22T-3RX             | W = White Flange + Reflector<br>B = Black Flange + Reflector<br>HW = White Flange + Haze Reflector<br>HZ = Haze Flange+ Reflector |
| 4"   | ND22T-4RX   | ND22T-4RX    | ND22T-4RX             |                                                                                                                                   |
| 6"   | ND22T-6RX   | ND22T-6RX    | ND22T-6RX             |                                                                                                                                   |
|      |             |              |                       |                                                                                                                                   |
| 4"   | ND22T-4HRX  | ND22T-4HRX   | ND22T-4HRX            |                                                                                                                                   |
| 6"   | ND22T-6HRX  | ND22T-6HRX   | ND22T-6HRX            |                                                                                                                                   |
| 8"   | ND22T-8RX   | ND22T-8RX    | ND22T-8RX             |                                                                                                                                   |
| 10"  | ND22T-10RX  | ND22T-10RX   | ND22T-10RX            |                                                                                                                                   |

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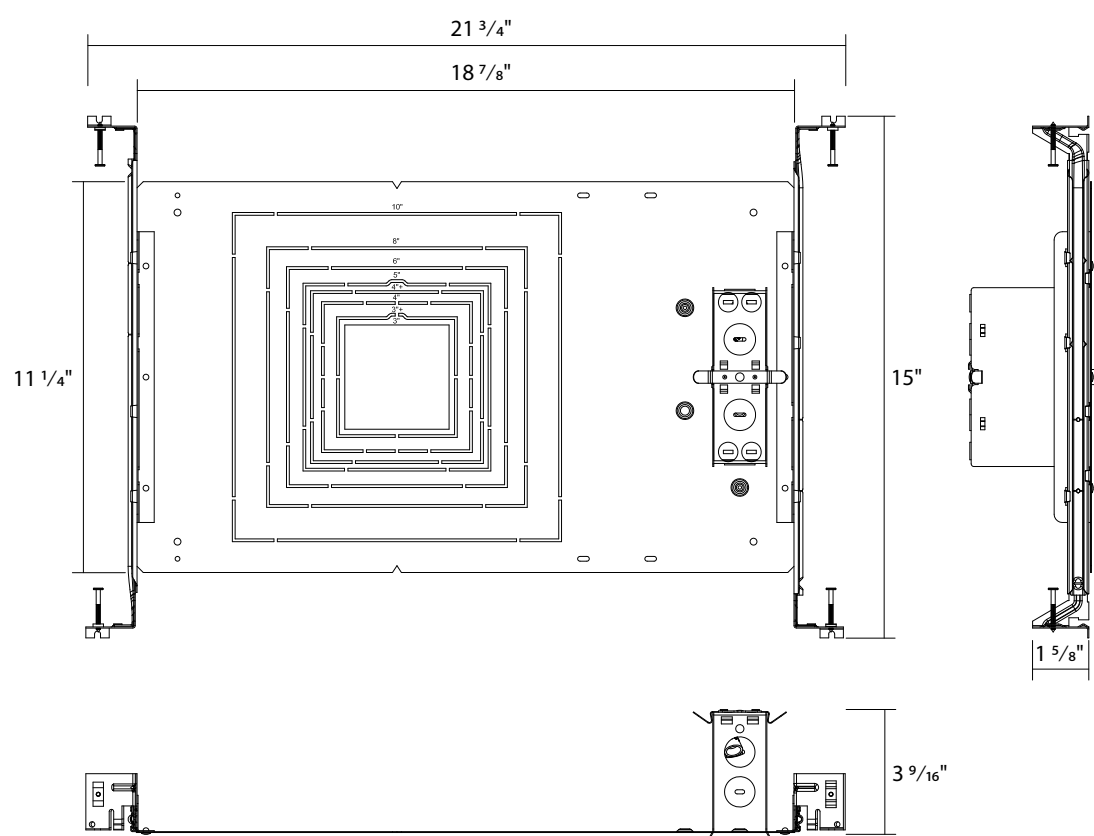


## NEW CONSTRUCTION HOUSING DIMENSIONS

### RFRAME



### SFRAME



# ND22 Modular, Optics-Adjustable Downlights



## ORDERING INFO

| Preassembled Downlight Kits                                                       | Catalog Number | UPC          | Description                                                  | Case Pack |
|-----------------------------------------------------------------------------------|----------------|--------------|--------------------------------------------------------------|-----------|
|  | ND22-12-3RW    | 192552048927 | 3" MODULAR DL 12W 3WATT & 5CCT FA BEAM ANGLE ADJ WHITE ROUND | 4         |
|  | ND22-12-4HRW   | 192552048934 | 4" MODULAR DL 20W 3WATT & 5CCT BEAM ANGLE ADJ WHITE ROUND    | 4         |
|  | ND22-30-6HRW   | 192552048941 | 6" MODULAR DL 30W 3WATT & 5CCT BEAM ANGLE ADJ WHITE ROUND    | 4         |
|  | ND22-50-8RW    | 192552048958 | 8" MODULAR DL 50W 3WATT & 5CCT BEAM ANGLE ADJ WHITE ROUND    | 2         |

## BUILD YOUR OWN DOWNLIGHT

### Step 1: Choose Light Engine

|                                                                                     | Catalog Number | UPC          | Description                                                  | Case Pack |
|-------------------------------------------------------------------------------------|----------------|--------------|--------------------------------------------------------------|-----------|
|  | ND22-12        | 192552048965 | 3" MODULAR DL 12W 3WATT & 5CCT FA BEAM ANGLE ADJ WHITE ROUND | 6         |
|  | ND22-20        | 192552048972 | 4" MODULAR DL 20W 3WATT & 5CCT BEAM ANGLE ADJ WHITE ROUND    | 6         |
|  | ND22-30        | 192552048989 | 6" MODULAR DL 30W 3WATT & 5CCT BEAM ANGLE ADJ WHITE ROUND    | 6         |
|  | ND22-50        | 192552048996 | 8" MODULAR DL 50W 3WATT & 5CCT BEAM ANGLE ADJ WHITE ROUND    | 4         |

# ND22 Modular, Optics-Adjustable Downlights



## Step 2: Choose Trim

| ND22-12 Compatible Trims |               |               |               |  |
|--------------------------|---------------|---------------|---------------|--|
|                          | 3"            | 4"            | 6"            |  |
| Round Open Trims         |               |               |               |  |
| Haze/White               | ND22T-3RHW    | ND22T-4RHW    | ND22T-6RHW    |  |
| White                    | ND22T-3RW     | ND22T-4RW     | ND22T-6RW     |  |
| Haze                     | ND22T-3RHZ    | ND22T-4RHZ    | ND22T-6RHZ    |  |
| Black                    | ND22T-3RB     | ND22T-4RB     | ND22T-6RB     |  |
| Square Open Trims        |               |               |               |  |
| Haze/White               | ND22T-3SHW    | ND22T-4SHW    | ND22T-6SHW    |  |
| White                    | ND22T-3SW     | ND22T-4SW     | ND22T-6SW     |  |
| Haze                     | ND22T-3SHZ    | ND22T-4SHZ    | ND22T-6SHZ    |  |
| Black                    | ND22T-3SB     | ND22T-4SB     | ND22T-6SB     |  |
| Round Wall Wash Trims    |               |               |               |  |
| Haze/White               | ND22T-3RHW-WW | ND22T-4RHW-WW | ND22T-6RHW-WW |  |
| White                    | ND22T-3RW-WW  | ND22T-4RW-WW  | ND22T-6RW-WW  |  |
| Haze                     | ND22T-3RHZ-WW | ND22T-4RHZ-WW | ND22T-6RHZ-WW |  |
| Black                    | ND22T-3RB-WW  | ND22T-4RB-WW  | ND22T-6RB-WW  |  |

| ND22-20, ND22-30 Compatible Trims |             |                |             |     |
|-----------------------------------|-------------|----------------|-------------|-----|
|                                   | 4"          | 6"             | 8"          | 10" |
| Round Open Trims                  |             |                |             |     |
| Haze/White                        | ND22T-4RHW  | ND22T-6HSHW    | ND22T-8SHW  | —   |
| White                             | ND22T-4RW   | ND22T-6HSW     | ND22T-8SW   | —   |
| Haze                              | ND22T-4RHZ  | ND22T-6HSHZ    | ND22T-8SHZ  | —   |
| Black                             | ND22T-4RB   | ND22T-6SRB     | ND22T-8SB   | —   |
| Square Open Trims                 |             |                |             |     |
| Haze/White                        | ND22T-4HSHW | ND22T-6HSHW    | ND22T-8HSHW | —   |
| White                             | ND22T-4HSW  | ND22T-6HSW     | ND22T-8HSW  | —   |
| Haze                              | ND22T-4HHZ  | ND22T-6HHZ     | ND22T-8HSHZ | —   |
| Black                             | ND22T-4HB   | ND22T-6HB      | ND22T-8HSB  | —   |
| Round Wall Wash Trims             |             |                |             |     |
| Haze/White                        | —           | ND22T-6HRHW-WW | ND22T-8HSHW | —   |
| White                             | —           | ND22T-6HRW-WW  | ND22T-8HSW  | —   |
| Haze                              | —           | ND22T-6HRHZ-WW | ND22T-8HSHZ | —   |
| Black                             | —           | ND22T-6HRB-WW  | ND22T-8HSB  | —   |

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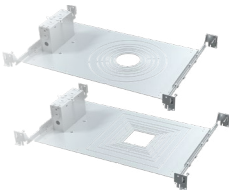


## Emergency Photometric Data

| ND22-50 Compatible Trims |    |                |               |             |
|--------------------------|----|----------------|---------------|-------------|
|                          | 4" | 6"             | 8"            | 10"         |
| Round Open Trims         |    |                |               |             |
| Haze/White               | —  | ND22T-6HRHW    | ND22T-8RHW    | ND22T-10RHW |
| White                    | —  | ND22T-6HRW     | ND22T-8RW     | ND22T-10RW  |
| Haze                     | —  | ND22T-6HRHZ    | ND22T-8RHZ    | ND22T-10RHZ |
| Black                    | —  | ND22T-6HRB     | ND22T-8RB     | ND22T-10RB  |
| Square Open Trims        |    |                |               |             |
| Haze/White               | —  | ND22T-6HSHW    | ND22T-8SHW    | —           |
| White                    | —  | ND22T-6HSW     | ND22T-8SW     | —           |
| Haze                     | —  | ND22T-6SHHZ    | ND22T-8SHZ    | —           |
| Black                    | —  | ND22T-6HSB     | ND22T-8SB     | —           |
| Round Wall Wash Trims    |    |                |               |             |
| Haze/White               | —  | ND22T-6HRHW-WW | ND22T-8RHW-WW | —           |
| White                    | —  | ND22T-6HRW-WW  | ND22T-8RW-WW  | —           |
| Haze                     | —  | ND22T-6HRHZ-WW | ND22T-8RHZ-WW | —           |
| Black                    | —  | ND22T-6HRB-WW  | ND22T-8RB-WW  | —           |

## Step 3: Optional Accessories

### OPTIONAL ACCESSORIES

| Accessory                                                                           | Catalog Number | UPC          | Description                                | Case Pack |
|-------------------------------------------------------------------------------------|----------------|--------------|--------------------------------------------|-----------|
|  | ND22-RFRAME    | 192552049726 | ND22 MOUNTING PLATE WITH NAILER BAR-ROUND  | 2         |
|                                                                                     | ND22-SFRAME    | 192552049733 | ND22 MOUNTING PLATE WITH NAILER BAR-SQUARE | 2         |
|  | EMB-9          | 192552051187 | EM DRIVER 100-347V 9W 0-10V DIM            | 15        |
|                                                                                     | EMB-15         | 192552051194 | EM DRIVER 100-347V 15W 0-10V DIM           | 15        |
|                                                                                     | EMB-25         | 192552051200 | EM DRIVER 100-347V 25W 0-10V DIM           | 15        |
|  | LCBAUX/W       | 192552039611 | LCB CONTROLLER 12V INDOOR AND OUTDOOR      | 120       |
|                                                                                     | LCBAUX/B       | 192552030502 | LCB CONTROLLER 12V INDOOR AND OUTDOOR      | 120       |

# ND22 Modular, Optics-Adjustable Downlights



## Emergency Photometric Data

| Lumen Output for 90 min |              | EM Driver |       |       |
|-------------------------|--------------|-----------|-------|-------|
| Downlight SKU           |              | EMB-9     | EMB15 | EMB25 |
| ND22-12                 | Lumens       | 966       | 983   | 986   |
|                         | Wattage (EM) | 10W       | 10W   | 10W   |
| ND22-20                 | Lumens       | 1286      | 1729  | 2169  |
|                         | Wattage (EM) | 10W       | 16W   | 20W   |
| ND22-30                 | Lumens       | 1350      | 1801  | 2758  |
|                         | Wattage (EM) | 10W       | 15W   | 24W   |
| ND22-50                 | Lumens       | 1471      | 1963  | 2901  |
|                         | Wattage (EM) | 10W       | 16W   | 24W   |

## ORDERING MATRICES

### MODULES

| Product Family | Wattage†                                                   | Color Temp/CRI                         | Distribution                                                                  | Driver                                                |
|----------------|------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>ND22</b>    | -                                                          |                                        |                                                                               |                                                       |
|                | 12 12/9/7W<br>20 20/16/12W<br>30 30/24/18W<br>50 50/40/30W | <b>Blank</b> 2700/3000/3500/4000/5000K | <b>Blank</b> 25° to 45° Adjustable (12/20/30W)<br>30° to 50° Adjustable (50W) | <b>Blank</b> 120-277V, 0-10V Dimming<br>TRIAC Dimming |

### TRIMS

| Product Family | Aperture/Size†                                           | Shape                             | Reflector Finish                                                                                                                                         | Trim Type                                                     |
|----------------|----------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>ND22T</b>   | -                                                        |                                   |                                                                                                                                                          |                                                               |
|                | 3 3"<br>4 4"<br>4H 4"<br>6 6"<br>6H 6"<br>8 8"<br>10 10" | <b>R</b> Round<br><b>S</b> Square | <b>W</b> White Reflector + Flange<br><b>HZ</b> Haze Reflector + Flange<br><b>HW</b> Haze Reflector + White Flange<br><b>B</b> Black Reflector + Flange** | <b>Blank</b> Open Flange Trim<br><b>WW</b> Wall Wash Trim *** |

\* Square not available in 10".

\*\* Black flange for black reflector only.

\*\*\* Wall Wash only in 6", 8", and 10".

† ND22-12 fits 3, 4, and 6"; ND22-20 and ND22-30 fit 4H, 6H, and 8" models; ND22-50 fits 6H, 8", and 10" models.

# ND22 Dimmer Compatibility List



| Dimmer Brand | Dimmer Series         | Dimmer Cat NR  | Dimmer Type |
|--------------|-----------------------|----------------|-------------|
| Lutron       | Maestro C-L           | MACL-153M      | TRIAC       |
| Lutron       | Skylark C-L           | SCL-153P       | TRIAC       |
| Lutron       | Sureslide             | Cat.NO.6674    | TRIAC       |
| Lutron       | Diva C-L              | DVCL-153P      | TRIAC       |
| Lutron       | toggle                | TGCL-153PH-WH  | TRIAC       |
| Lutron       | Radiant               | RHCL453PTC     | TRIAC       |
| Lutron       | Harmony               | DCL453PTCCCV6  | TRIAC       |
| Lutron       | Harmony               | HCL453PTCCCV6  | TRIAC       |
| Lutron       | Skylark               | CTCL-153PDH-WH | TRIAC       |
| Lutron       | Illumena Tech         | R50-IPL06-10M  | TRIAC       |
| Lutron       | Diva C-L              | DVWCL-153PH-WH | TRIAC       |
| Lutron       | ~                     | AYCL-153P-BR   | TRIAC       |
| RAB          | ~                     | XDIM           | TRIAC       |
| RAB          | ~                     | XDIM/LCB       | TRIAC       |
| Lutron       | Illumatech for decora | IP710-LFZ      | 0-10V       |
| Lutron       | Diva                  | DVSTV-WH       | 0-10V       |
| Lutron       | Nova                  | NFTV           | 0-10V       |
| Lutron       | Nova                  | NTSTV-DV       | 0-10V       |
| Legrand      | Radiant®              | RH4FBL3PW      | 0-10V       |
| Eaton        | LISTED 6B28           | DF10P          | 0-10V       |
| Eaton        | LISTED 6B28           | SF10P-W        | 0-10V       |
| RAB          | ~                     | XDIM/D10/LCB   | 0-10V       |