

**JUNO**

# 2" LED SQUARE DOWNLIGHT

## 600 LUMEN

### 2SQ Series

Project: \_\_\_\_\_

Fixture Type: \_\_\_\_\_

Location: \_\_\_\_\_

Contact/Phone: \_\_\_\_\_



#### PRODUCT DESCRIPTION

2 inch square aperture recessed downlight is IC rated for insulated or non-insulated applications • Luminaire produces up to 600 lumens and is available with optical distributions approximating that of 50W MR16 halogen lamps • Low profile form factor allows luminaire to fit in 2 x 6 construction • Designed to provide 50,000 hours of life • 5 year limited warranty on LED Components.

#### ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury, RoHS compliant
- Comparable light output to a 50W MR16 halogen lamp

#### PRODUCT SPECIFICATIONS

**LED Light Engine** Exceptional fixture to fixture color consistency within a 3-step MacAdam ellipse • 2700K, 3000K, 3500K, and 4100K color temperatures are available with 80 CRI or 90 CRI minimum.

**Modular Optics** Available with field interchangeable optics in 18° Spot, 24° Narrow Flood, or 40° Flood distributions.

**Aesthetic Trim** Die cast trim ring is available in white, black, satin nickel, and brushed bronze • Die cast reflectors are available in white and black.

**LED Driver** Choice of dedicated 120 volt driver or universal voltage driver that accommodates input voltages from 120-277 volts AC at 50/60Hz. Power factor > 0.9. Dedicated 120 volt driver (-1) is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage dimmers • Universal voltage driver (-U) is dimmable with the use of most 0-10V protocol dimmers • For a list of compatible dimmers, see [JUNO2INCH-DIM](#).

**Life** Rated for 50,000 hours at 70% lumen maintenance.

**Labels** ENERGY STAR® Qualified • 90CRI fixtures with white reflector are certified to the high efficacy requirements of California T24 with select trims • Meets energy code Air Leakage requirements per ASTM E283 • UL and cUL listed for wet locations.

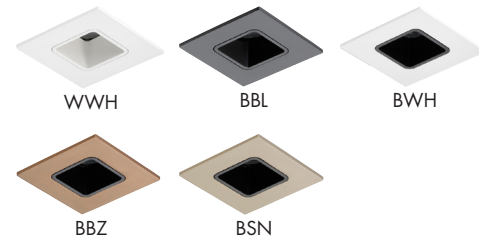
**Junction Box** Includes (2) ½" knock-outs equipped with pryout slots • Push-in electrical connectors for field connections.

**Mounting** Remodel style plaster frame installs from below the ceiling and accommodates ceiling thicknesses from ½" to 1" • For thicker ceilings up to 1 ½", order 2-JCTA150 • New Construction mounting frame, 2-NCMF, is also available with Real Nail 3® telescoping bar hangers to position fixture and locate wiring prior to ceiling installation.

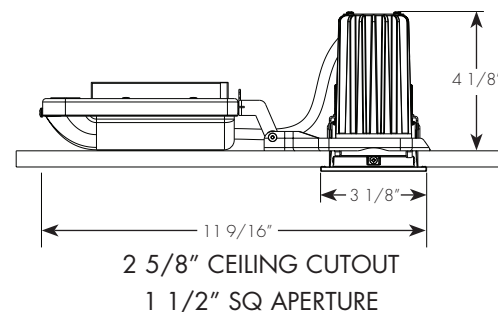
Product specifications subject to change without notice.



#### Downlight Baffle Finishes



#### DIMENSIONS



#### ENGINEERING DATA

|               | Dedicated 120V (-1) | Universal Voltage (-U) |
|---------------|---------------------|------------------------|
| Voltage       | 120                 | 120 277                |
| Input Power   | 10.1 (±5%)          | 9.7 9.8 (±5%)          |
| Input Current | .09                 | .08 .04                |
| Frequency     | 50/60Hz             | 50/60Hz                |
| Power Factor  | .94                 | .98 .98                |

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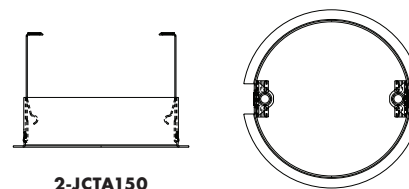
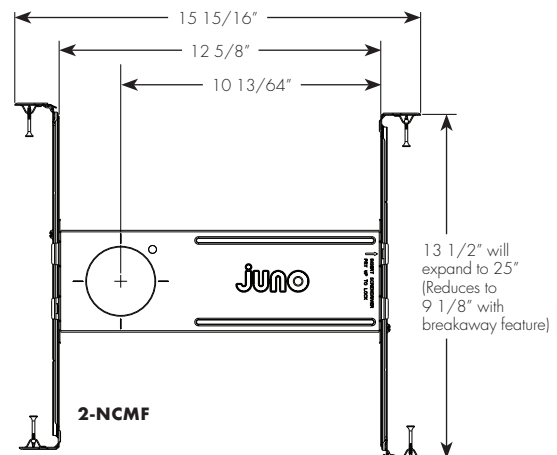
#### ORDERING INFORMATION:

Example: **2SQ-927N1-WWH**

| Series                      | CRI/Color Temperature   |                         | Beam Optics               | Drivers   | Finish  |
|-----------------------------|-------------------------|-------------------------|---------------------------|---|---|
| <b>2SQ</b> Square Downlight | <b>827</b> 2700K, 80CRI | <b>927</b> 2700K, 90CRI | <b>S</b> 18° Spot         | <b>I</b> Dedicated 120V Only (Forward Phase + ELV Dimmable) | <b>Downlight Reflector</b><br><b>WWH</b> White, White Trim Ring<br><b>BBL*</b> Black, Black Trim Ring<br><b>BWH*</b> Black, White Trim Ring<br><b>BBZ*</b> Black, Bronze Trim Ring<br><b>BSN*</b> Black, Satin Nickel Trim Ring<br>*Not T24 Certified |
|                             | <b>830</b> 3000K, 80CRI | <b>930</b> 3000K, 90CRI | <b>N</b> 24° Narrow Flood | <b>U</b> Universal Voltage 120-277V (0-10V Dimmable)        |   |
|                             | <b>835</b> 3500K, 80CRI | <b>935</b> 3500K, 90CRI | <b>F</b> 40° Flood        |   |   |
|                             | <b>841</b> 4100K, 80CRI | <b>941</b> 4100K, 90CRI |                           |   |   |

#### ACCESSORIES

| Catalog No.        | Description   |
|--------------------|---|
| <b>2-NCMF</b>      | New Construction Mounting Frame with Real Nail® 3 bar hangers |
| <b>2-JCTA150</b>   | Thick Ceiling adapter for 1" - 1½" thick ceiling              |
| <b>LEDOPTIC2-S</b> | 18° Spot Optic  |
| <b>LEDOPTIC2-N</b> | 24° Narrow Flood Optic  |
| <b>LEDOPTIC2-F</b> | 40° Flood Optic   |



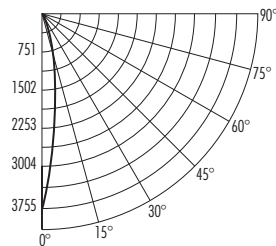
# 2" LED SQUARE DOWNLIGHT

## 600 LUMEN

### 2SQ Series

#### PHOTOMETRIC REPORT

Test Report#: PT01142104R  
 Catalog No: 2SQ-835S1-WWH  
 80 CRI, 3500K LED, White  
 Reflector with Spot Optic  
 Luminaire Spacing Criteria: 0.32  
 Luminaire LPW: 62



#### CANDLEPOWER DISTRIBUTION (Candelas)

| Degrees Vertical | 0°   |
|------------------|------|
| 0                | 3755 |
| 5                | 2969 |
| 15               | 862  |
| 25               | 98   |
| 35               | 30   |
| 45               | 14   |
| 55               | 11   |
| 65               | 8    |
| 75               | 5    |
| 85               | 2    |
| 90               | 0    |

#### AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60'x60' room)

Reflectances: Ceiling 80%, Wall 50%, Floor 20%

| Spacing | RCR1 | RCR3 | RCR5 |
|---------|------|------|------|
| 4'      | 44   | 40   | 37   |
| 5'      | 28   | 26   | 24   |
| 6'      | 20   | 18   | 16   |
| 7'      | 16   | 14   | 13   |
| 8'      | 13   | 11   | 11   |
| 9'      | 10   | 9    | 8    |
| 10'     | 7    | 6    | 6    |

#### INITIAL FOOTCANDLES (One Unit, 10.1W, 17.7° Beam)

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Beam Diameter |
|--------------------------------------|-------------------------|---------------|
| 4'                                   | 235.9                   | 1.2           |
| 6'                                   | 104.9                   | 1.9           |
| 8'                                   | 59.0                    | 2.5           |
| 10'                                  | 37.8                    | 3.1           |
| 12'                                  | 26.2                    | 3.7           |

#### ZONAL LUMEN SUMMARY

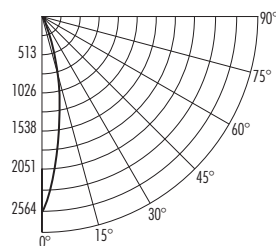
| Zone  | Lumens | %Lamp | %Fixture |
|-------|--------|-------|----------|
| 0-30° | 569    | N/A   | 90.5     |
| 0-40° | 591    | N/A   | 94.0     |
| 0-60° | 613    | N/A   | 97.5     |
| 0-90° | 629    | N/A   | 100.0    |

#### LUMINANCE (Average cd/m<sup>2</sup>)

| Degrees | Average Luminance |
|---------|-------------------|
| 45°     | 14448             |
| 55°     | 13749             |
| 65°     | 13995             |
| 75°     | 14542             |
| 85°     | 15423             |

#### PHOTOMETRIC REPORT

Test Report#: PT01142202R  
 Catalog No: 2SQ-835N1-WWH  
 80 CRI, 3500K LED, White  
 Reflector with Narrow Flood Optic  
 Luminaire Spacing Criteria: 0.40  
 Luminaire LPW: 57



#### CANDLEPOWER DISTRIBUTION (Candelas)

| Degrees Vertical | 0°   |
|------------------|------|
| 0                | 2564 |
| 5                | 2235 |
| 15               | 848  |
| 25               | 141  |
| 35               | 29   |
| 45               | 15   |
| 55               | 11   |
| 65               | 8    |
| 75               | 5    |
| 85               | 2    |
| 90               | 0    |

#### AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60'x60' room)

Reflectances: Ceiling 80%, Wall 50%, Floor 20%

| Spacing | RCR1 | RCR3 | RCR5 |
|---------|------|------|------|
| 4'      | 41   | 37   | 33   |
| 5'      | 26   | 23   | 21   |
| 6'      | 18   | 16   | 15   |
| 7'      | 15   | 13   | 12   |
| 8'      | 12   | 10   | 10   |
| 9'      | 9    | 8    | 7    |
| 10'     | 7    | 6    | 5    |

#### INITIAL FOOTCANDLES (One Unit, 10.1W, 23.4° Beam)

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Beam Diameter |
|--------------------------------------|-------------------------|---------------|
| 4'                                   | 160.3                   | 1.7           |
| 6'                                   | 71.2                    | 2.5           |
| 8'                                   | 40.1                    | 3.3           |
| 10'                                  | 25.6                    | 4.1           |
| 12'                                  | 17.8                    | 5.0           |

#### ZONAL LUMEN SUMMARY

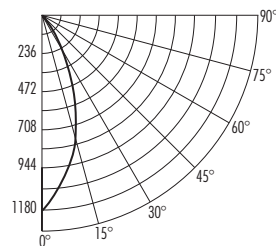
| Zone  | Lumens | %Lamp | %Fixture |
|-------|--------|-------|----------|
| 0-30° | 520    | N/A   | 89.6     |
| 0-40° | 543    | N/A   | 93.6     |
| 0-60° | 565    | N/A   | 97.4     |
| 0-90° | 581    | N/A   | 100.0    |

#### LUMINANCE (Average cd/m<sup>2</sup>)

| Degrees | Average Luminance |
|---------|-------------------|
| 45°     | 15462             |
| 55°     | 14062             |
| 65°     | 13995             |
| 75°     | 14542             |
| 85°     | 14395             |

#### PHOTOMETRIC REPORT

Test Report#: PT01142105R  
 Catalog No: 2SQ-835F1-WWH  
 80 CRI, 3500K LED, White  
 Reflector with Flood Optic  
 Luminaire Spacing Criteria: 0.66  
 Luminaire LPW: 60



#### CANDLEPOWER DISTRIBUTION (Candelas)

| Degrees Vertical | 0°   |
|------------------|------|
| 0                | 1180 |
| 5                | 1126 |
| 15               | 811  |
| 25               | 343  |
| 35               | 66   |
| 45               | 24   |
| 55               | 10   |
| 65               | 9    |
| 75               | 5    |
| 85               | 2    |
| 90               | 0    |

#### AVERAGE INITIAL FOOTCANDLES Multiple Units (Square Array, 60'x60' room)

Reflectances: Ceiling 80%, Wall 50%, Floor 20%

| Spacing | RCR1 | RCR3 | RCR5 |
|---------|------|------|------|
| 4'      | 42   | 37   | 33   |
| 5'      | 27   | 24   | 21   |
| 6'      | 19   | 16   | 15   |
| 7'      | 15   | 13   | 12   |
| 8'      | 12   | 10   | 9    |
| 9'      | 9    | 8    | 7    |
| 10'     | 7    | 6    | 5    |

#### INITIAL FOOTCANDLES (One Unit, 10.1W, 39.8° Beam)

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Beam Diameter |
|--------------------------------------|-------------------------|---------------|
| 4'                                   | 73.8                    | 2.9           |
| 6'                                   | 32.8                    | 4.3           |
| 8'                                   | 18.4                    | 5.8           |
| 10'                                  | 11.8                    | 7.2           |
| 12'                                  | 8.2                     | 8.7           |

#### ZONAL LUMEN SUMMARY

| Zone  | Lumens | %Lamp | %Fixture |
|-------|--------|-------|----------|
| 0-30° | 498    | N/A   | 82.7     |
| 0-40° | 554    | N/A   | 92.0     |
| 0-60° | 585    | N/A   | 97.2     |
| 0-90° | 602    | N/A   | 100.0    |

#### LUMINANCE (Average cd/m<sup>2</sup>)

| Degrees | Average Luminance |
|---------|-------------------|
| 45°     | 25854             |
| 55°     | 13437             |
| 65°     | 15267             |
| 75°     | 15235             |
| 85°     | 14395             |

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit represents a baseline of performance for the fixture. Results may vary in the field.

| Multiplier: | 80 CRI     | 90 CRI    |
|-------------|------------|-----------|
|             | 827 = .94  | 927 = .83 |
|             | 830 = .97  | 930 = .86 |
|             | 835 = 1.00 | 935 = .88 |
|             | 841 = 1.03 | 940 = .90 |