

JUNO®

Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

5" TC 900 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

TC20LED (G4 09LM) RECESSED HOUSING



HYPERBOLIC TRIMS



PRODUCT DESCRIPTION

Dedicated LED new construction housing with integral light engine • Shallow housing allows for fit in 2 x 6 construction • TC housing design for use in non-insulated areas • If installed where insulation is present, the insulation must be pulled back 3" from all sides of the TC housing • LED housing is designed to provide 50,000 hours of life and is compatible with many standard Juno trims • 5 year limited warranty on LED components.

ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury
- Comparable light output to 26W compact fluorescent while consuming only 18W*

PRODUCT SPECIFICATIONS

LED Light Engine LED array integrated to one piece high purity aluminum, thermally conductive housing provides uninterrupted heat transfer to ensure long life of the LED • Replaceable light engine mounts directly to housing and incorporates the latest generation, high lumen output LED array • LEDs are binned within a 3-Step MacAdam Ellipse exceeding ENERGY STAR® requirements yielding superior fixture to fixture color uniformity • 2700K, 3000K, 3500K or 4000K color temperatures available • 90 CRI minimum.

Hyperbolic Optical System Unique hyperbolic reflector shape optimized for small, directional LED source provides unique aperture appearance with reduced brightness • NMC™ nano mixing chamber (provided with trim) with high reflectance white finish coupled with a high transmission diffusing lens conceals the LED and integrates with the hyperbolic trim to create a low glare, efficient system producing over 900 lumens using less than 17W*.

Aesthetic Trim Selections Patent pending hyperbolic reflector available in clear Alzak®, wheat haze, black Alzak® and white • Shadow free, knife edge design blends seamlessly into ceiling • Installs with torsion springs.

LED Driver Universal voltage drivers that accommodate input voltage from 120-277 volts AC at 50/60Hz are available and dimmable with the use of most 0-10V dimmers • Power factor > 0.9 at 120V input • Optional Lutron Hi-Lume® A-Series driver accommodates 120-277 volts AC at 50/60Hz • Mounted between the j-box and housing for easy access and cool operation • For a list of compatible dimmers, see [JUNOTCLEDDIM](#).

Emergency Battery Option Battery factory assembled to housing with remote mounted test switch included • Drives LED array for 90 minutes to meet Life Safety Code (NFPA-LSC), National Electrical Code (NEC) and UL requirements • Provides 50% light output in emergency mode.

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

Labels ENERGY STAR® Certified when used with select trims • UL listed for U.S. and Canada through-branch wiring, damp locations • Union made • UL and cUL listed.

Testing All reports are based on published industry procedures; field performance may differ from laboratory performance.

Specifications subject to change without notice.

HOUSING FEATURES

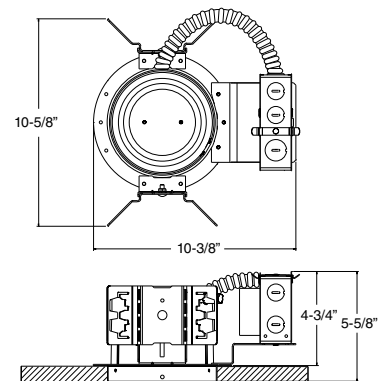
Housing Designed for use in TC applications (non-insulated) • Aluminum housing • Housing is vertically adjustable to accommodate up to a 2" ceiling thickness.

Junction Box Pre-wired junction box provided with (5) 1/2" and (1) 3/4" knockouts and ground wire, UL listed and cUL listed for through-branch wiring, maximum 8 No. 12 AWG 90° C branch circuit conductors (4 in, 4 out) • Junction box provided with removable access plates • Knockouts equipped with pryout slots.

Mounting Frame 16-gauge galvanized steel mounting ring equipped with vertically adjustable mounting brackets that accept 1/2" conduit or "C" channels (HB26 or HB50), linear flat bars (LB27) or Patented (US Patent D552,969) Real Nail® 3 bar hangers (HB1).

*Nominal input wattage with universal voltage driver under stable operating conditions

DIMENSIONS



5 5/8" CEILING CUTOUT

ELECTRICAL DATA

STANDARD UNIVERSAL VOLTAGE DRIVER

(MVOLT EZ10, MVOLT ZT10, MVOLT EZ1 and MVOLT ZT1)

| | 120V | 277V |
|-----------------------|--|--|
| Input Power | 16.1W (+/-5%) | 16.9W (+/-5%) |
| Input Current - Max | 0.14A | 0.06A |
| Frequency | 50/60Hz | 50/60Hz |
| EMI/RFI | FCC Title 47 CFR, Part 15, Class B (residential) | FCC Title 47 CFR, Part 15, Class B (residential) |
| Minimum starting temp | -20°C (-40°F) | -20°C (-40°F) |

UNIVERSAL VOLTAGE DRIVER WITH EMERGENCY OPTION

(MVOLT ZT10 BR, EZ10 BR, ZT1 BR and EZ1 BR)

| | 120V | 277V |
|-----------------------|---|---|
| Input Power | 18.9W (+/-5%) | 19.6W (+/-5%) |
| Input Current - Max | 0.16A | 0.07A |
| Frequency | 50/60Hz | 50/60Hz |
| EMI/RFI | FCC Title 47 CFR, Part 15, Class A (Commercial) | FCC Title 47 CFR, Part 15, Class A (Commercial) |
| Minimum starting temp | 0°C (32°F) | 0°C (32°F) |

LUTRON HI-LUME® LED DRIVER (ECOS3)

| | 120V | 277V |
|-----------------------|---|---|
| Input Power | 17.8W (+/-5%) | 17.8W (+/-5%) |
| Input Current - Max | 0.15A | 0.06A |
| Frequency | 50/60Hz | 50/60Hz |
| EMI/RFI | FCC Title 47 CFR, Part 15, Class A (Commercial) | FCC Title 47 CFR, Part 15, Class A (Commercial) |
| Minimum starting temp | 0°C (32°F) | 0°C (32°F) |

5" TC 900 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

TC20LED (G4 09LM) RECESSED HOUSING HYPERBOLIC TRIMS

ORDERING INFORMATION Housing and trim can be ordered together or separate, but will always ship separately.

Example: TC20LED G4 09LM 27K 90CRI MVOLT ZT BR

| Series | Generation | Lumens | Color Temperature | CRI | Voltage/Driver |
|---|-----------------|-------------------------|-------------------|---------------|--|
| TC20LED 5" LED Downlight Non-IC Housing | G4 Generation 4 | 09LM 900 Nominal Lumens | 27K 2700K | 90CRI 90+ CRI | MVOLT ZT10 Multi-Volt (120-277), 0-10V, 10% dim |
| | | | 30K 3000K | | MVOLT ZT1 Multi-Volt (120-277), 0-10V, 1% dim |
| | | | 35K 3500K | | MVOLT EZ10 Multi-Volt (120-277), eidoLED 0-10V, 10% dim |
| | | | 40K 4000K | | MVOLT EZ1 Multi-Volt (120-277), eidoLED 0-10V, 1% dim |
| | | | | | MVOLT ECOS3 Multi-Volt (120-277), Lutron Hi-Lume A series 3 wire fluorescent controls and Lutron Ecosystem |

| Emergency Battery | Territory |
|----------------------|-------------------|
| BR Emergency Battery | CP Chicago Plenum |

Note: Chicago Plenum (CP) is not available with emergency option (BR)
Note: Lutron driver (MVOLT ECOS3) is not available with emergency battery pack (BR)



A+ Capable options indicated by this color background

Trim/Description



| | | |
|------------------------------------|---|---|
| 204HYP3 BWH ¹ | 5" Hyperbolic Cone Trim - Black, White Trim Ring | ¹ Not ENERGY STAR® Certified |
| 204HYP3 CWH | 5" Hyperbolic Cone Trim - Clear Alzak®, White Trim Ring | |
| 204HYP3 HZWH | 5" Hyperbolic Cone Trim - Haze, White Trim Ring | |
| 204HYP3 WHZABZ ¹ | 5" Hyperbolic Cone Trim - Wheat Haze, Classic Aged Bronze Trim Ring | |
| 204HYP3 WHZWH ¹ | 5" Hyperbolic Cone Trim - Wheat Haze, White Trim Ring | |
| 204HYP3 WWH | 5" Hyperbolic Cone Trim - White, White Trim Ring | |

Trim Size: 6 1/4" O.D.

Alzak® is a registered trademark of Alcoa Corp.

Note: In Canada when insulation is present, Type IC fixtures must be used.

Accessories (ordered separately)

| Catalog Number | Description |
|----------------|--|
| HB1 | Two 13 1/2" - 25" Real Nail® 3 bar hangers |
| HB26 | Two 26" C-channel bar hangers |
| HB50 | Two 50" C-channel bar hangers |
| LB27 | Two 27" linear bar hangers |
| TR5 ABZ | 5" Trim Ring - Classic Aged Bronze |
| TR5 BL | 5" Trim Ring - Black |
| TR5 SC | 5" Trim Ring - Satin Chrome |
| TR5 WH | 5" Trim Ring - White |

To order, specify catalog number.

5" TC 900 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

TC20LED (G4 09LM) RECESSED HOUSING HYPERBOLIC TRIMS

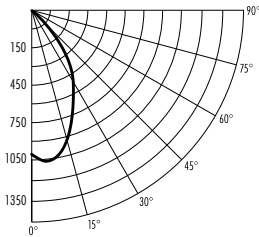
PHOTOMETRICS

PHOTOMETRIC REPORT

Test Report #: PT03140404
Catalog No: TC20LED G4 09LM 35K
90CRI MVOLT with 204HYP3 CWH Trim
and standard nano mixing chamber

Luminaire Spacing Criterion: 0.94

Luminaire LPW: 59



CANDLEPOWER DISTRIBUTION (Candelas)

| Degrees | Vertical | 0° |
|------------------------|----------|----|
| 0 | 1027 | |
| 5 | 1059 | |
| 15 | 955 | |
| 25 | 688 | |
| 35 | 324 | |
| 45 | 65 | |
| 55 | 0 | |
| 65 | 0 | |
| 75 | 0 | |
| 85 | 0 | |
| 90 | 0 | |
| Multiplier: 27K - 0.93 | | |
| 30K - 0.99 | | |
| 40K - 1.01 | | |

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)
Ceiling 80% Wall 50% Floor 20%

| Spacing | RCR1 | RCR3 | RCR5 |
|---------|------|------|------|
| 4.0' | 65 | 57 | 50 |
| 5.0' | 41 | 36 | 32 |
| 6.0' | 29 | 25 | 22 |
| 7.0' | 23 | 20 | 18 |
| 8.0' | 18 | 16 | 14 |
| 9.0' | 14 | 12 | 11 |
| 10.0' | 10 | 9 | 8 |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixture |
|-------|--------|-------|----------|
| 0-30° | 679 | N/A | 72.1 |
| 0-40° | 884 | N/A | 93.9 |
| 0-60° | 942 | N/A | 100.0 |
| 0-90° | 942 | N/A | 100.0 |

INITIAL FOOTCANDLES

(One Unit, 16.1W, 59.6° Beam)

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Beam Diameter |
|--------------------------------------|-------------------------|---------------|
| 4 | 64.2 | 4.6' |
| 6 | 28.5 | 6.9' |
| 8 | 16.1 | 9.2' |
| 10 | 10.3 | 11.5' |

LUMINANCE (Average cd/m²)

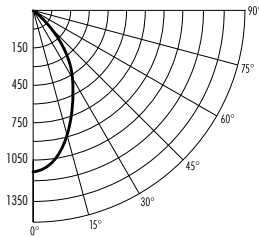
| Degrees | Average 0° Luminescence |
|---------|-------------------------|
| 45 | 8770 |
| 55 | 17 |
| 65 | 0 |
| 75 | 0 |
| 85 | 0 |

PHOTOMETRIC REPORT

Test Report #: PT03140405
Catalog No: TC20LED G4 09LM 35K
90CRI MVOLT with 204HYP3 HZWH Trim
and standard nano mixing chamber

Luminaire Spacing Criterion: 0.88

Luminaire LPW: 57



CANDLEPOWER DISTRIBUTION (Candelas)

| Degrees | Vertical | 0° |
|------------------------|----------|----|
| 0 | 1082 | |
| 5 | 1062 | |
| 15 | 897 | |
| 25 | 661 | |
| 35 | 316 | |
| 45 | 70 | |
| 55 | 1 | |
| 65 | 0 | |
| 75 | 0 | |
| 85 | 0 | |
| 90 | 0 | |
| Multiplier: 27K - 0.93 | | |
| 30K - 0.99 | | |
| 40K - 1.01 | | |

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)
Ceiling 80% Wall 50% Floor 20%

| Spacing | RCR1 | RCR3 | RCR5 |
|---------|------|------|------|
| 4.0' | 63 | 55 | 48 |
| 5.0' | 40 | 35 | 31 |
| 6.0' | 28 | 24 | 21 |
| 7.0' | 23 | 20 | 17 |
| 8.0' | 18 | 16 | 14 |
| 9.0' | 14 | 12 | 10 |
| 10.0' | 10 | 9 | 8 |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixture |
|-------|--------|-------|----------|
| 0-30° | 651 | N/A | 71.4 |
| 0-40° | 850 | N/A | 93.3 |
| 0-60° | 912 | N/A | 100.0 |
| 0-90° | 912 | N/A | 100.0 |

INITIAL FOOTCANDLES

(One Unit, 16.1W, 58.5° Beam)

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Beam Diameter |
|--------------------------------------|-------------------------|---------------|
| 4 | 67.6 | 4.5' |
| 6 | 30.0 | 6.7' |
| 8 | 16.9 | 9.0' |
| 10 | 10.8 | 11.2' |

LUMINANCE (Average cd/m²)

| Degrees | Average 0° Luminescence |
|---------|-------------------------|
| 45 | 9333 |
| 55 | 99 |
| 65 | 0 |
| 75 | 0 |
| 85 | 0 |

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.