

# JUNO®

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

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

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

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

## 5" TC 900 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

TC20LED (G4 09LM) RECESSED HOUSING



### OPEN 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.

**Optical System** Computer-optimized reflector design with high reflectance white finish coupled with a high transmission diffusing lens conceals the LEDs and produces uniform aperture luminance • Deep regression of lens produces a low glare, efficient system that can produce over 900 lumens with select trims using less than 17W\* • Wide flood (>70°) distribution shipped as standard with optional optic accessories available and sold separately.

**Aesthetic Trim Selections** Compatible with wide selection of existing Juno trims • Shadow free, knife edge design blends seamlessly into ceiling.

**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 [JUNOTCLED-DIM](#).

**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 baffle and cone 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.

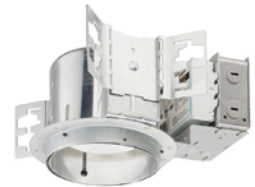
### HOUSING FEATURES

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

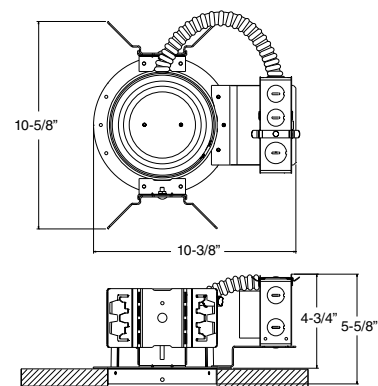
**Junction Box** Pre-wired junction box provided with (5) 1/2" and (1) 3/4" knockouts and ground wire, UL listed and cUL listed for through-branch wiring, maximum 8 No. 12 AWG 90° C branch circuit conductors (4 in, 4 out) • Junction box provided with removable access plates • Knockouts equipped with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

	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)

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**OPEN 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), eldoLED 0-10V, 10% dim
			40K 4000K		MVOLT EZ1 Multi-Volt (120-277), eldoLED 0-10V, 1% dim
					MVOLT ECOD† Multi-Volt (120-277), Lutron Hi-Lume EcoSystem, 1% Dimming

Emergency Battery	Territory
BR† Emergency Battery	CP Chicago Plenum

†: MVOLT ECOD and BR Emergency Battery not ENERGY STAR® certified  
 Note: Chicago Plenum (CP) is not available with emergency option (BR)  
 Note: Lutron driver (MVOLT ECOD) is not available with emergency battery pack (BR)



A+ Capable options indicated by this color background

## Trim/Description

	<b>205 BBRZ<sup>1</sup></b>	5" Downlight Baffle Trim - Black Baffle, Bronze Trim Ring	<sup>1</sup> Not ENERGY STAR® Certified
	<b>205 BSC<sup>1</sup></b>	5" Downlight Baffle Trim -Black Baffle, Satin Chrome Trim Ring	
	<b>205 BWH<sup>1</sup></b>	5" Downlight Baffle Trim -Black Baffle, White Trim Ring	
	<b>205 WWH</b>	5" Downlight Baffle Trim -White Baffle, White Trim Ring	
	<b>204 BWH<sup>1</sup></b>	5" Downlight Cone Trim -Black Alzak Cone, White Trim Ring	
	<b>204 CWH</b>	5" Downlight Cone Trim -Clear Alzak Cone, White Trim Ring	
	<b>204 GWH</b>	5" Downlight Cone Trim -Gold Alzak Cone, White Trim Ring	
	<b>204 HZWH</b>	5" Downlight Cone Trim -Haze Cone, White Trim Ring	
	<b>204 PTSC</b>	5" Downlight Cone Trim -Pewter Alzak Cone, Satin Chrome Trim Ring	
	<b>204 WHZBRZ</b>	5" Downlight Cone Trim -Wheat Haze Cone, Bronze Trim Ring	
	<b>204 WHZWH</b>	5" Downlight Cone Trim -Wheat Haze Cone, White Trim Ring	
	<b>204 WWH</b>	5" Downlight Cone Trim -Gloss White Cone, 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
<b>HB1</b>	Two 13 1/2" - 25" Real Nail® bar hangers
<b>HB26</b>	Two 26" C-Channel bar hangers
<b>HB50</b>	Two 50" C-Channel bar hangers
<b>LB27</b>	Two 27" linear bar hangers
<b>LEDOPTICG3 MFL</b>	Medium Flood Optic (50°)
<b>LEDOPTICG3 NFL</b>	Narrow Flood Optic (37°)
<b>LEDOPTICG3 SP</b>	Spot Optic (10°)
<b>TR5 BRZ</b>	5" Trim Ring - Bronze
<b>TR5 BL</b>	5" Trim Ring - Black
<b>TR5 SC</b>	5" Trim Ring - Satin Chrome
<b>TR5 WH</b>	5" Trim Ring - White

To order, specify catalog number.

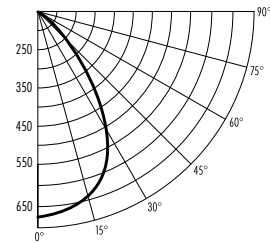
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## PHOTOMETRICS

### PHOTOMETRIC REPORT

Test Report #: PT02141404R  
Catalog No: TC20LED G4 09LM 35K  
90CRI MVOLT with 205 WWH White  
Baffle Trim and Standard Wide Flood Optic  
Luminaire Spacing Criterion: 1.10  
Luminaire LPW: 64



### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees	Candelas
Vertical	0°
0	685
5	681
15	648
25	556
35	371
45	161
55	90
65	52
75	31
85	6
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'	70	57	48
5.0'	44	36	30
6.0'	31	25	21
7.0'	25	20	17
8.0'	20	16	14
9.0'	15	12	10
10.0'	11	9	8

### ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	501	N/A	48.6
0-40°	729	N/A	70.7
0-60°	939	N/A	91.1
0-90°	1031	N/A	100.0

### INITIAL FOOTCANDLES (One Unit, 16.1W, 72° Beam)

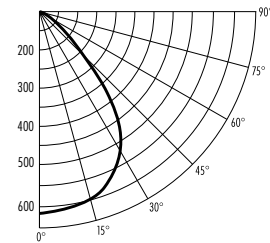
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	42.8	5.8'
6	19.0	8.7'
8	10.7	11.6'
10	6.9	17.4'

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

Degrees	Average 0° Luminance
45	21580
55	14842
65	11575
75	11228
85	7037

### PHOTOMETRIC REPORT

Test Report #: LTL25981R  
Catalog No: TC20LED G4 09LM 35K  
90CRI MVOLT with 204 CWH Clear Alzak®  
Trim and Standard Wide Flood Optic  
Luminaire Spacing Criterion: 1.26  
Luminaire LPW: 73



### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees	Candelas
Vertical	0°
0	628
5	624
15	602
25	567
35	465
45	252
55	130
65	62
75	11
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'	79	64	53
5.0'	50	41	34
6.0'	35	29	24
7.0'	28	23	19
8.0'	22	18	15
9.0'	17	14	12
10.0'	13	10	9

### ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	490	N/A	42.0
0-40°	775	N/A	66.4
0-60°	1090	N/A	93.3
0-90°	1168	N/A	100.0

### INITIAL FOOTCANDLES (One Unit, 16.1W, 83.8° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	39.2	7.2'
6	17.4	10.8'
8	9.8	14.4'
10	6.3	17.9'

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

Degrees	Average 0° Luminance
45	34695
55	22020
65	14303
75	4119
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.