

**JUNO**

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

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

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

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

# 4" IC AND TC 1000 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT NEW CONSTRUCTION

## IC104AL, TC104AL RECESSED HOUSING DOWNLIGHT TRIMS



### PRODUCT DESCRIPTION

Patent pending dedicated LED, Air-Loc® sealed new construction housing with integral internally adjustable light engine • Double wall, shallow housing construction • IC104AL series can be completely covered with insulation and installs in 2 x 6 construction • TC104AL series 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) • Fully sealed housing stops infiltration and exfiltration of air, reducing heating and cooling costs without the use of additional gaskets • LED housing is 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 75W incandescent

### PRODUCT SPECIFICATIONS

**LED Light Engine** LED array attached to cast aluminum sliding heatsink integrated directly with housing provides superior heat transfer to ensure long life of the LED • Replaceable light engine mounts directly to inner housing assembly and incorporates the latest generation, high lumen output LED array • LEDs are binned within a 3-step MacAdam Ellipse exceeding ENERGY STAR® requirements for superior fixture to fixture color uniformity • 2700K, 3000K, 3500K, or 4100K color temperatures available • 90 CRI minimum.

**Optics** Three field interchangeable, TIR optics available in 18°, 30° and 40° beam angles • Module can accommodate one 2-inch diameter beam control lens or filter.

**Aesthetic Trim Selections** Aluminum downlight reflector in clear, black, pewter, white, haze and wheat haze • Shadow free, knife edge design blends seamlessly into ceiling.

**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 at 120V input • 120 volt only driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers • Universal voltage driver is dimmable with the use of most 0-10V wall box dimmers • For a list of compatible dimmers, see [JUNOICLED-DIM](#).

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

**Labels** ENERGY STAR® Qualified • Certified to the high efficacy requirements of California T24 • UL listed for U.S. and Canada for through-branch wiring, damp locations • Union made • UL and cUL.

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

Product specifications subject to change without notice.

### HOUSING FEATURES

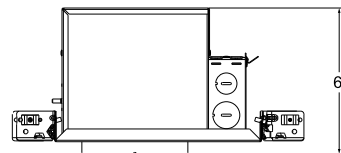
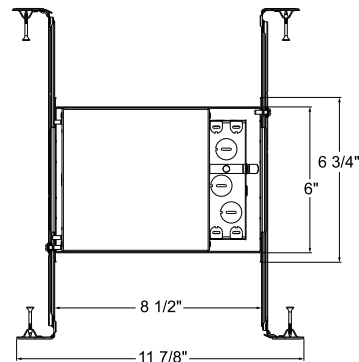
**Housing** IC104AL designed for use in IC (insulated ceiling) or non-IC construction • TC104AL designed for use in non-IC construction • Aluminum housing sealed for Air-Loc® compliance • Housing is vertically adjustable to accommodate up to a 1 1/2" ceiling thickness.

**Junction Box** Pre-wired junction box provided with (6) 1/2" and (1) 3/4" knockouts, (4) knockouts for 12/2 or 14/2 NM cable and ground wire • UL listed and cUL listed for through-branch wiring, maximum 4 #12 branch circuit conductors • Junction box provided with removable access plates • Knockouts equipped with pryout slots • Quick connect electrical connectors supplied as standard for fast, secure installation.

**Mounting Frame** 22-gauge die-formed galvanized steel mounting frame • Rough-in section (junction box, mounting frame, housing and bar hangers) fully assembled for ease of installation.

**Real Nail 3 Bar Hangers** Patented (US Patent D552,969) Real Nail® 3 bar hangers: telescoping system permits quick placement of housing anywhere within 24" O.C. joists or suspended ceilings • Includes removable nail for repositioning of fixture in wood joist construction • Integral T-bar notch and clip for suspended ceilings.

### DIMENSIONS



4 1/2" CEILING CUTOUT

### ELECTRICAL DATA

#### Dedicated 120V Only Driver Option (-1) 120V

Input Power	16.4W (+/-5%)	
Input Current	0.15A	
Frequency	50/60Hz	
EMI/RFI	FCC Title 47 CFR, Part 15, Class B (Residential)	
Minimum starting temp	-25°C (-13°F)	

#### Universal Voltage Driver (-U)

	120V	277V
Input Power	16.0W (+/-5%)	16.0W (+/-5%)
Input Current	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	-20°C (-4°F)	-20°C (-4°F)

#### Lutron Hi-Lume® LED Driver (-L)

	120V	277V
Input Power	16.4W (+/-5%)	16.6W (+/-5%)
Input Current	0.15A	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)

# 4" IC AND TC 1000 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT NEW CONSTRUCTION

## IC104AL, TC104AL RECESSED HOUSING DOWNLIGHT TRIMS

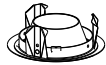

### ORDERING INFORMATION: Housing and trim each ordered separately.

Example: **IC104AL-3K-F-1**

Series	Color Temperature	Beam Optics	Input Voltage
<b>IC104AL</b>	<b>27K</b> 2700K <b>3K</b> 3000K <b>35K</b> 3500K <b>41K</b> 4100K	<b>S</b> 18° Spot <b>N</b> 30° Narrow Flood <b>F</b> 40° Flood	<b>1</b> Dedicated 120V Only (Forward Phase + ELV Dimmable) <b>U</b> Universal Voltage 120-277V (0-10V Dimmable)

Series	Color Temperature	Beam Optics	Input Voltage
<b>TC104AL</b>	<b>27K</b> 2700K <b>3K</b> 3000K <b>35K</b> 3500K <b>41K</b> 4100K	<b>S</b> 18° Spot <b>N</b> 30° Narrow Flood <b>F</b> 40° Flood	<b>L†</b> Lutron Hi-Lume® 3-Wire Dimming EcoSystem Compatible  † Not ENERGY STAR® or T24 compliant

Example: **42LHZ-WH**

Trim/Description
 <b>42LC-WH</b> Downlight Cone - Clear Alzak®
<b>42LB-WH</b> Downlight Cone - Black Alzak®
<b>42LPT-SC</b> Downlight Cone - Pewter Alzak®
 <b>42LW-WH</b> Downlight Cone - Gloss White
<b>42LHZ-WH</b> Downlight Cone - Haze
<b>42LWHZ-WH</b> Downlight Cone - Wheat Haze
<b>42LWHZ-ABZ</b> Downlight Cone - Wheat Haze

Trim Size: 5" O.D.

Trim Finish: ABZ - Classic Aged Bronze, SC - Satin Chrome, WH - White.  
Alzak is a registered trademark of Alcoa Corp.

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

### ACCESSORIES

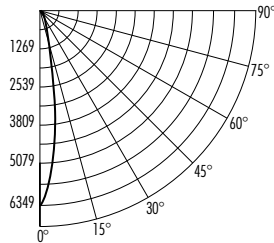
Catalog No.	Description
<b>T741</b>	Med. Pink Color Filter
<b>T742</b>	Warm Red Color Filter
<b>T743</b>	Daylight Blue Color Filter
<b>T744</b>	Med. Blue Color Filter
<b>T745</b>	Med. Amber Color Filter
<b>T746</b>	Med. Green Color Filter
<b>T7401</b>	Red Dichroic Lens
<b>T7403</b>	Med. Green Dichroic Lens
<b>T7404</b>	Med. Blue Dichroic Lens
<b>T7405</b>	Yellow Dichroic Lens
<b>T7406</b>	Magenta Dichroic Lens
<b>T7411</b>	Blue Green Dichroic Lens
<b>T7416</b>	Daylight Blue Correction Lens
<b>T7420</b>	Diffuse Spread Lens
<b>T7422</b>	UV Filter Lens
<b>T7459BL</b>	Hexcell Louver
<b>T7478</b>	Linear Spread Lens
<b>T7477</b>	Prismatic Lens
<b>TIR-2-SP</b>	18° Spot Optic
<b>TIR-2-NFL</b>	30° Narrow Flood Optic
<b>TIR-2-FL</b>	40° Flood Optic

# 4" IC AND TC 1000 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT NEW CONSTRUCTION

## IC104AL, TC104AL RECESSED HOUSING DOWNLIGHT TRIMS

### PHOTOMETRIC REPORT

Test Report#: PT09152801R  
 Catalog No: IC104AL-35K-S-1  
 with 42LHZ-WH, Downlight Cone Haze Finish  
 Trim and Spot Optic  
 Luminaire Spacing Criteria: 0.30  
 Luminaire LPW: 64



### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	6349
5	4828
15	1260
25	420
35	105
45	14
55	0
65	0
75	0
85	0
90	0

Multipliers:  
 27K - 0.93    35K - 1.00  
 3K - 0.96    41K - 1.03

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

Spacing	RCR1	RCR3	RCR5
4.0'	74	67	61
5.0'	47	43	39
6.0'	33	30	27
7.0'	27	24	22
8.0'	21	19	17
9.0'	16	15	13
10.0'	12	11	10

### ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	956	N/A	91.3
0-40°	1031	N/A	98.5
0-60°	1046	N/A	100.0
0-90°	1046	N/A	100.0

### INITIAL FOOTCANDLES (One Unit, 16.4W, 16.9° Beam)

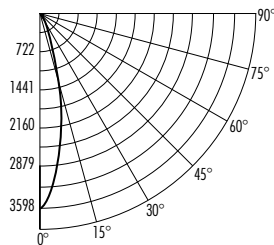
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	396.8	1.2
6	176.4	1.8
8	99.2	2.4
10	63.5	3.0

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

Degrees	Average 0° Luminance
45	3709
55	105
65	0
75	0
85	0

### PHOTOMETRIC REPORT

Test Report#: PT09152803R  
 Catalog No: IC104AL-35K-N-1  
 with 42LHZ-WH, Downlight Cone Haze Finish  
 Trim and Narrow Flood Optic  
 Luminaire Spacing Criteria: 0.46  
 Luminaire LPW: 62



### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	3598
5	3318
15	1497
25	423
35	115
45	25
55	1
65	0
75	0
85	0
90	0

Multipliers:  
 27K - 0.93    35K - 1.00  
 3K - 0.96    41K - 1.03

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

Spacing	RCR1	RCR3	RCR5
4.0'	71	64	59
5.0'	46	41	38
6.0'	32	29	26
7.0'	26	23	21
8.0'	20	18	17
9.0'	15	14	13
10.0'	11	10	9

### ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	910	N/A	89.5
0-40°	993	N/A	97.7
0-60°	1016	N/A	100.0
0-90°	1016	N/A	100.0

### INITIAL FOOTCANDLES (One Unit, 16.4W, 27.0° Beam)

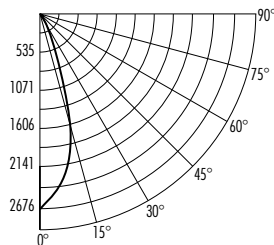
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	224.9	1.9
6	99.9	2.9
8	56.2	3.8
10	36.0	4.8

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

Degrees	Average 0° Luminance
45	6597
55	244
65	0
75	0
85	0

### PHOTOMETRIC REPORT

Test Report#: PT09152805R  
 Catalog No: IC104AL-35K-F-1  
 with 42LHZ-WH, Downlight Cone Haze Finish  
 Trim and Flood Optic  
 Luminaire Spacing Criteria: 0.58  
 Luminaire LPW: 68



### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	2676
5	2552
15	1626
25	659
35	157
45	30
55	0
65	0
75	0
85	0
90	0

Multipliers:  
 27K - 0.93    35K - 1.00  
 3K - 0.96    41K - 1.03

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

Spacing	RCR1	RCR3	RCR5
4.0'	78	70	63
5.0'	50	45	40
6.0'	35	31	28
7.0'	28	25	23
8.0'	22	20	18
9.0'	17	15	14
10.0'	13	11	10

### ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	980	N/A	87.5
0-40°	1091	N/A	97.4
0-60°	1120	N/A	100.0
0-90°	1120	N/A	100.0

### INITIAL FOOTCANDLES (One Unit, 16.4W, 35.0° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	167.3	2.5
6	74.3	3.8
8	41.8	5.0
10	26.8	6.3

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

Degrees	Average 0° Luminance
45	8041
55	35
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.



1300 S. Wolf Road • Des Plaines, IL 60018 • Phone (847) 827-9880 • Fax (847) 827-2925  
 220 Chrysler Drive • Brampton, Ontario • Canada L6S 6B6 • Phone (905) 792-7335 • Fax (905) 792-0064  
 Visit us at [www.junolightinggroup.com](http://www.junolightinggroup.com)