



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

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

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

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

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

IC4AL, TC4AL (10LM) 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 • IC4AL series can be completely covered with insulation and installs in 2 x 6 construction • TC4AL 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 4000K 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 (120) driver or universal voltage (MVOLT) 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** IC4AL is ENERGY STAR® certified • IC4AL is certified to the high efficacy requirements of California T24 JA8-2016 • 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.

Specifications subject to change without notice.

### HOUSING FEATURES

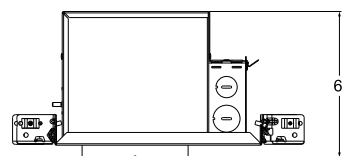
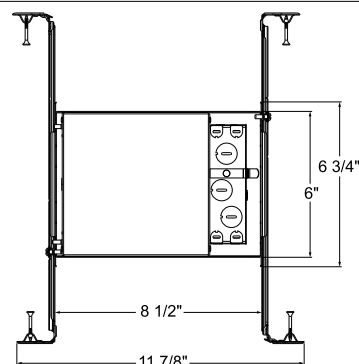
**Housing** IC4AL designed for use in IC (insulated ceiling) or non-IC construction • TC4AL designed for use in non-IC construction • Aluminum housing sealed for Air-Loc® compliance • Housing is vertically adjustable to accommodate up to a 1 1/2" ceiling thickness.

**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 (120) 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 (MVOLT ZT)

	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 (MVOLT ECOD)

	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

## IC4AL, TC4AL (10LM) RECESSED HOUSING DOWNLIGHT TRIMS

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

**Example:** IC4AL 10LM 27K 90CRI FL 120 FRPC

Series	Lumens	Color Temperature	CRI	Distribution	Voltage	Driver	Territory
<b>IC4AL</b> 4" LED Internally Adjustable New Const. IC Downlight	<b>10LM</b> 1000 Nominal Lumens	<b>27K</b> 2700K <b>30K</b> 3000K <b>35K</b> 3500K <b>40K</b> 4000K	<b>90CRI</b> 90+ CRI	<b>FL</b> Flood <b>NFL</b> Narrow Flood <b>SP</b> Spot	<b>120</b> 120V <b>MVOLT</b> Multi-Volt (120-277V)	<b>FRPC</b> Forward/ Reverse Phase Cut <b>ZT</b> 0 - 10V Dimming Driver	<b>CP</b> Chicago Plenum

Notes: 120 must be ordered with FRPC. MVOLT must be ordered with ZT

**Example:** TC4AL 10LM 27K 90CRI FL MVOLT ECOD

Series	Lumens	Color Temperature	CRI	Distribution	Voltage	Driver	Territory
<b>TC4AL</b> 4" LED Internally Adjustable New Const. Non IC Downlight	<b>10LM</b> 1000 Nominal Lumens	<b>27K</b> 2700K <b>30K</b> 3000K <b>35K</b> 3500K <b>40K</b> 4000K	<b>90CRI</b> 90+ CRI	<b>FL</b> Flood <b>NFL</b> Narrow Flood <b>SP</b> Spot	<b>MVOLT</b> Multi-Volt	<b>ECOD</b> Lutron Hi-Lume EcoSystem, 1% Dimming	<b>CP</b> Chicago Plenum

TC4AL is not ENERGY STAR® or T24 compliant

### Trim/Description



<b>42L BWH</b>	4" Downlight Cone Trim - Black Alzak® Cone, White Trim Ring
<b>42L CWH</b>	4" Downlight Cone Trim - Clear Alzak® Cone, White Trim Ring
<b>42L HZWH</b>	4" Downlight Cone Trim - Haze Cone, White Trim Ring
<b>42L PTSC</b>	4" Downlight Cone Trim - Pewter Alzak® Cone, Satin Chrome Trim Ring
<b>42L WHZBRZ</b>	4" Downlight Cone Trim - Wheat Haze Cone, Bronze Trim Ring
<b>42L WHZWH</b>	4" Downlight Cone Trim - Wheat Haze Cone, White Trim Ring
<b>42L WWH</b>	4" Downlight Cone Trim - Gloss White Cone, White Trim Ring

Trim Size: 5" 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>CGF 200 MPINK</b>	Color Glass Filter - 2" Diameter - Medium Pink
<b>CGF 200 WRED</b>	Color Glass Filter - 2" Diameter - Warm Red
<b>CGF 200 DLTBLUE</b>	Color Glass Filter - 2" Diameter - Daylight Blue
<b>CGF 200 MBLU</b>	Color Glass Filter - 2" Diameter - Medium Blue
<b>CGF 200 MAMB</b>	Color Glass Filter - 2" Diameter - Medium Amber
<b>CGF 200 MGRN</b>	Color Glass Filter - 2" Diameter - Medium Green
<b>DGF 200 DRED</b>	Dichroic Glass Filter - 2" Diameter Red
<b>DGF 200 MGRN</b>	Dichroic Glass Filter - 2" Diameter Medium Green
<b>DGF 200 MBLU</b>	Dichroic Glass Filter - 2" Diameter Medium Blue
<b>DGF 200 DYEL</b>	Dichroic Glass Filter - 2" Diameter Yellow (Dichroic)
<b>DGF 200 MAGEN</b>	Dichroic Glass Filter - 2" Diameter Magenta
<b>DGF 200 CYAN</b>	Dichroic Glass Filter - 2" Diameter Cyan
<b>DCCF 200 HL4250</b>	Dichroic Color Correction Filter - 2" Diameter - Halogen - to - Daylight
<b>DIFF 200</b>	Diffusion Glass Lens - 2" Diameter
<b>UVF 200</b>	UV Filter Lens - 2" Diameter
<b>HCLBL 200</b>	Hexagonal Cell Louver - Black - 2" Diameter
<b>LSPREAD 200</b>	Linear Spread Glass Lens - 2" Diameter
<b>PRISM 200</b>	Prismatic Glass Lens - 2" Diameter
<b>TIR2 SPT</b>	TIR Optic - Spot
<b>TIR2 NFLD</b>	TIR Optic - Narrow Flood
<b>TIR2 FLD</b>	TIR Optic - Flood

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

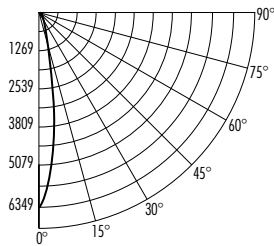
IC4AL, TC4AL (10LM) RECESSED HOUSING

## DOWNLIGHT TRIMS

### PHOTOMETRICS

#### PHOTOMETRIC REPORT

Test Report#: PTO9152801R  
Catalog No: IC4AL 10LM 35K 90CRI 35K  
SP 120 FRPC with 42L HZWH, 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  
30K - 0.96 40K - 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)

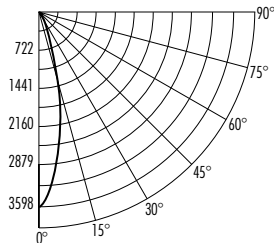
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	396.8	1.2
6	176.4	1.8
8	99.2	2.4
10	63.5	3.0

#### LUMINANCE (Average cd/m²)

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

#### PHOTOMETRIC REPORT

Test Report#: PTO9152803R  
Catalog No: IC4AL 10LM 35K 90CRI 35K  
NFL 120 FRPC with 42L HZWH, 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  
30K - 0.96 40K - 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)

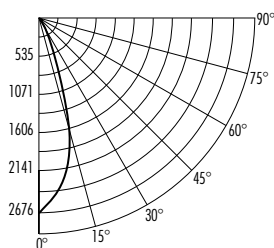
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	224.9	1.9
6	99.9	2.9
8	56.2	3.8
10	36.0	4.8

#### LUMINANCE (Average cd/m²)

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

#### PHOTOMETRIC REPORT

Test Report#: PTO9152805R  
Catalog No: IC4AL 10LM 35K 90CRI 35K  
FL 120 FRPC with 42L HZWH, 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  
30K - 0.96 40K - 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/m²)

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.