



## BLACK BODY DIMMING & TUNABLE WHITE 700/1000 LUMEN DOWNLIGHT LED

### PRODUCT DESCRIPTION

Recessed downlight LED luminaire features both Black Body Dimming and Tunable White technology in a single fixture. In Black Body Dimming mode, the luminaire duplicates halogen dimming, creating a natural warm glow as the CCT shifts from 3000K to less than 1800K when dimmed. In Tunable White mode, the CCT can be adjusted anywhere along the Planckian locus from 2000K through 4350K independent of dimming. Aculux Black Body Dimming and Tunable White luminaires feature a sealed Air-Loc® housing and is available in both IC and Non-IC rated configurations.

### PRODUCT SPECIFICATIONS

**LED Light Engine** With single dimmer connected, the light engine duplicates halogen, with the CCT shifting from 3000K at 100% to 1800K when dimmed to 1% • Connect a second dimmer to engage Tunable White mode, featuring independent dimming and CCT tuning from 2000K through 4350K • Superb color consistency within 2 SDCM of the Planckian locus over CCT range • Accurate color rendition with 90 CRI at 3000K, and 85 CRI/70 R9 throughout CCT range.

**Dimming and CCT Control** Black Body Dimming and CCT Tuning are compatible with most 0-10V protocol dimmers • IC rated housings are rated for 120-277V input • For Non-IC housings, specify 120V or 277V. Refer to installation instructions for detailed wiring schematics.

**Modular Optics** Field interchangeable optics available with 21° Very Narrow Flood, 27° Narrow Flood, or 36° Flood distributions • 50° distribution is available when AF3-50DEG accessory lens is used with 27° Narrow Flood optic • Patent pending auto-adjusting optic holder maximizes luminaire efficiency by maintaining optimal LED optic position relative to trim • Accommodates up to three (3) beam control lenses and/or filters.

**Reflector** .040" aluminum parabolic reflector in black Alzak finish coupled with solite lens, shields housing interior.

**Trims Style** Trim Ring and Flush Mount reflectors available • Trim ring features beveled knife edge for clean ceiling interface • Flush Mount trim creates a truly trimless aperture • Features solite glass lens on aperture • For flush mount installations in drywall ceilings use the FMA4 flush mount adapter • For flush mount installations in wood, stone, or tile ceilings the FMA4-SC\*\*\* must be used (specify ceiling thickness and adapter finish).

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

**Warranty** 5 years from date of purchase on LED components • Standard Juno Lighting Group product guarantee terms and conditions apply.

**Codes/Labels** UL and cUL listed for through branch wiring, wet locations • Meets energy code Air Leakage requirements per ASTM E283 • Union made.

**Mounting** Available with either Patented (US Patent 8,038,113) Pro-VI™ bar hanger system, permitting quick placement of housing with 24" on-center joists or suspended ceilings, or with vertically adjustable mounting brackets (butterfly brackets). Specify mounting style when ordering.

**Junction Box** IC housings are rated for 4 No. 12 AWG 90°C through branch circuit conductors. • Non-IC housings are rated for 8 No. 12 AWG 90°C through branch circuit conductors. • Includes (5) ½", (1) ¾", and (4) Non-metallic sheathed cable knock-outs. • Push-in electrical connectors for field connections.

**Housing/Mounting Frame** Housing painted black for visually dark interior • V-Notch in plaster frame and Patented (US Patent 8,277,090) Tru-Line™ Platform featuring +/- ½" translation aids fixture alignment after installation, prior to drywall.

**Ceiling Thickness** ½" - 7/8" ceiling standard • For thicker ceilings, order CTA4N-125 (7/8"-1 ¼"), CTA4N-163 (1 ¼"-1 5/8") or CTA4N-200 (1 5/8"-2") • CTA4N not required for wood, stone, or tile flush mount applications.

### ELECTRICAL DATA

Housing	IC(9)43T		IC49T		TC(9)49T	
Voltage	120	277	120	277	120	277
Input Power (W)	13.0	14.3	20.5	21.6	22.5	23.6
Input Current (A)	0.11	0.06	0.17	0.09	0.18	0.09
Frequency	50/60Hz		50/60Hz		50/60Hz	
Power Factor	0.99	0.92	0.99	0.92	0.99	0.92

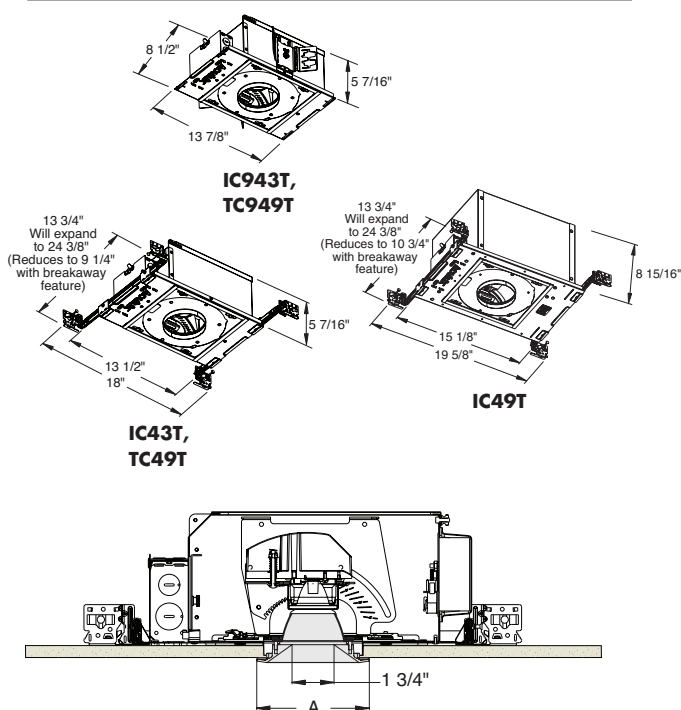
1-3/4" LENSED REGRESSED PINHOLE APERTURE



**IC(9)43T-4302N, IC49T-4302N,  
TC(9)49T-4302N**

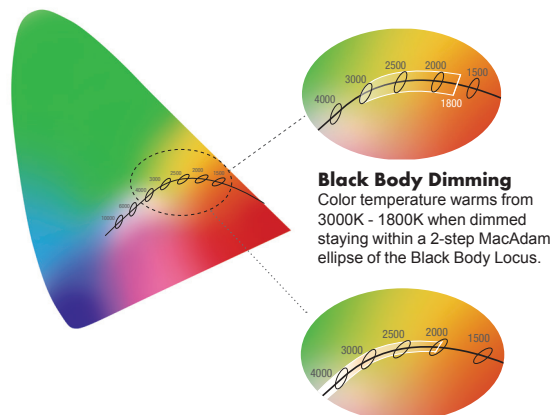
Type	Cat. No.
_____	_____
Project: _____	
Notes: _____	

### DIMENSIONS



**4 1/4" CEILING CUTOUT**  
(REFER TO INSTRUCTION SHEET FOR  
FLUSH MOUNT CEILING CUTOUT)

	A
Trim Ring	4 5/8"
Flush Mount	3 7/8"



**Black Body Dimming**  
Color temperature warms from 3000K - 1800K when dimmed staying within a 2-step MacAdam ellipse of the Black Body Locus.

**Tunable White**  
Color temperature can be tuned from 4350K - 2000K while staying within a 2-step MacAdam ellipse of the Black Body Locus.

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**IC(9)43T-4302N, IC49T-4302N,  
TC(9)49T-4302N**

## Ordering Information

Housing, trim and accessories each ordered separately


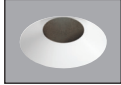
Example: **TC949T-W-N-U1**

Housing	Tunable White Range	Beam Spread	Voltage/Dimming <sup>1</sup>	Options
<b>IC43T</b> 700 Lumen, Bar Hangers (IC)	<b>W</b> 4350K - 2000K	<b>V</b> 21° Very Narrow Flood	<b>U</b> 120-277V, 0-10V Dimming	<b>CP*</b> Chicago Plenum
<b>IC943T</b> 700 Lumen, Butterfly Brackets (IC)		<b>N</b> 27° Narrow Flood	<b>U1</b> 120V, 0-10V Dimming	
<b>IC49T</b> 1000 Lumen, Bar Hangers (IC)		<b>F</b> 36° Flood	<b>U2</b> 277V, 0-10V Dimming	
<b>TC49T</b> 1000 Lumen, Bar Hangers (Non-IC)				
<b>TC949T</b> 1000 Lumen, Butterfly Brackets (Non-IC)				

\*Not available on IC49T Housing.

<sup>1</sup> IC is Universal voltage. Specify voltage for Non-IC products.

Example: **4302N-WH**

Trim		
		
Trim Ring	Flush Mount <sup>1</sup>	Description
<b>4302N-WH</b>	<b>4302N-WH-FM</b>	White Trim
<b>4302N-BL</b>	<b>4302N-BL-FM</b>	Black Trim

<sup>1</sup> Flush Mount trims must be used with FMA4 Flush Mount Adapter, ordered separately.

Product specifications subject to change without notice.

## Flush Mount Adapters

Cat. #	Description
<b>FMA4</b>	Drywall Ceiling Adapter
<b>FMA4-SC087-WH</b>	Wood, Stone, Tile, 1/2"-7/8" Thick Ceiling, Adapter, White
<b>FMA4-SC087-BL</b>	Wood, Stone, Tile, 1/2"-7/8" Thick Ceiling, Adapter, Black
<b>FMA4-SC125-WH</b>	Wood, Stone, Tile, 7/8"-1 1/4" Thick Ceiling, Adapter, White
<b>FMA4-SC125-BL</b>	Wood, Stone, Tile, 7/8"-1 1/4" Thick Ceiling, Adapter, Black
<b>FMA4-SC163-WH</b>	Wood, Stone, Tile, 1 1/4"-1 5/8" Thick Ceiling, Adapter, White
<b>FMA4-SC163-BL</b>	Wood, Stone, Tile, 1 1/4"-1 5/8" Thick Ceiling, Adapter, Black

## Optical Accessories

Cat. #	Description	Cat. #	Description
<b>TIR-TW-V</b>	21° Very Narrow Flood Optic	<b>T7403</b>	Med. Green Dichroic Lens
<b>TIR-TW-N</b>	27° Narrow Flood Optic	<b>T7404</b>	Med. Blue Dichroic Lens
<b>TIR-TW-F</b>	36° Flood Optic	<b>T7405</b>	Yellow Dichroic Lens
<b>AF3-50DEG</b>	50° Optic Film (Use with 27° Optic)	<b>T7406</b>	Magenta Dichroic Lens
<b>T741</b>	Med. Pink Color Filter	<b>T7411</b>	Blue Green Dichroic Lens
<b>T742</b>	Warm Red Color Filter	<b>T7416</b>	Daylight Blue Correction Lens
<b>T743</b>	Daylight Blue Color Filter	<b>T7420</b>	Diffuse Spread Lens
<b>T744</b>	Med. Blue Color Filter	<b>T7422</b>	UV Filter Lens
<b>T745</b>	Med. Amber Color Filter	<b>T7477</b>	Prismatic Lens
<b>T746</b>	Med. Green Color Filter	<b>T7478</b>	Linear Spread Lens
<b>T7401</b>	Red Dichroic Lens	<b>T7459BL</b>	Hexcell Louver

## Misc. Accessories

Cat. #	Description
<b>CTA4N-125</b>	1 1/4" Thick Ceiling Adapter
<b>CTA4N-163</b>	1 5/8" Thick Ceiling Adapter
<b>CTA4N-200</b>	2" Thick Ceiling Adapter
<b>HB-1</b>	(2) Real Nail 3 Bar Hangers
<b>HB-26</b>	(2) 26" C-Channel Bar Hangers
<b>HB-50</b>	(2) 50" C-Channel Bar Hangers
<b>LB-27</b>	(2) 27" Linear Bar Hangers
<b>EMI-20</b>	20W Emergency Lighting Inverter

To order, specify catalog number.



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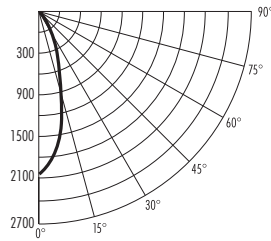
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**IC(9)43T-4302N, IC49T-4302N,  
TC(9)49T-4302N**

## PHOTOMETRIC REPORT

Test Report #: PT10131802R  
Catalog No: IC49T-W-F-U (Aim at 0°)  
with 4302N-WH trim  
Luminaire Spacing Criterion: 0.52  
Luminaire LPW: 31



## CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	2063
5	1910
15	1041
25	274
35	36
45	7
55	2
65	0
75	0
85	0
90	0

## AVERAGE INITIAL FOOTCANDLES

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

Spacing	RCR1	RCR3	RCR5
4.0'	44	40	37
5.0'	28	25	23
6.0'	20	18	16
7.0'	16	14	13
8.0'	12	11	10
9.0'	10	9	8
10.0'	7	6	6

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	587	94.4
0-40°	614	98.6
0-60°	622	99.9
0-90°	622	100.0

## INITIAL FOOTCANDLES (One Unit, 19.8W, 30.2° Beam)

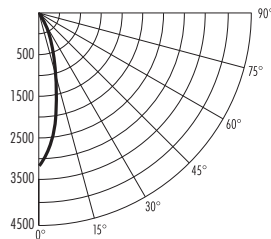
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	128.9	2.2'
6	57.3	3.2'
8	32.2	4.3'
10	20.6	5.4'

## LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	6101
55	4506
65	4215
75	3846
85	2805

## PHOTOMETRIC REPORT

Test Report #: PT10131709R  
Catalog No: IC49T-W-N-U (Aim at 0°)  
with 4302N-WH trim  
Luminaire Spacing Criterion: 0.44  
Luminaire LPW: 35



## CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	3214
5	2901
15	1172
25	191
35	24
45	5
55	2
65	0
75	0
85	0
90	0

## AVERAGE INITIAL FOOTCANDLES

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

Spacing	RCR1	RCR3	RCR5
4.0'	49	45	42
5.0'	32	29	27
6.0'	22	20	19
7.0'	18	16	15
8.0'	14	13	12
9.0'	11	10	9
10.0'	8	7	7

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	674	96.5
0-40°	691	99.0
0-60°	698	99.9
0-90°	698	100.0

## INITIAL FOOTCANDLES (One Unit, 19.8W, 25° Beam)

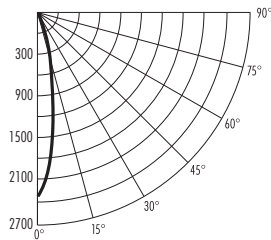
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
6	189.3	2.7'
8	50.2	3.5'
10	32.1	4.4'
12	22.3	5.3'

## LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	5211
55	3776
65	3347
75	2969
85	2204

## PHOTOMETRIC REPORT

Test Report #: PT10131707R  
Catalog No: IC49T-W-V-U (Aim at 0°)  
with 4302N-WH trim  
Luminaire Spacing Criterion: 0.34  
Luminaire LPW: 20



## CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	2356
5	1943
15	523
25	120
35	26
45	7
55	2
65	0
75	0
85	0
90	0

## AVERAGE INITIAL FOOTCANDLES

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

Spacing	RCR1	RCR3	RCR5
4.0'	28	25	24
5.0'	18	16	15
6.0'	12	11	11
7.0'	10	9	9
8.0'	8	7	7
9.0'	6	6	5
10.0'	4	4	4

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	369	93.6
0-40°	386	98.0
0-60°	393	99.9
0-90°	394	100.0

## INITIAL FOOTCANDLES (One Unit, 19.8W, 19.3° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
6	65.4	2.0'
8	36.8	2.7'
10	23.6	3.4'
12	16.4	4.1'

## LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	1280
55	351
65	119
75	49
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. Photometry is at 3000K CCT.

Fc/Lumen Multipliers: IC(9)43T - 0.70  
IC49T - 1.00  
TC(9)49T - 1.00



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