



Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

4" TC 1000 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

TC4RAL (10LM) RECESSED HOUSING
DOWNLIGHT TRIMS



PRODUCT DESCRIPTION

Patent pending dedicated LED, Air-Loc® remodel housing with integral internally adjustable light engine • Non-IC remodel housing for remodel application where back side of ceiling is not accessible • If installed where insulation is present, the insulation must be pulled back 3" from all sides of the TC housing • Installs through an opening in the ceiling from below • Secured in place by factory installed remodel springs • 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 ENERGY STAR® Certified • Certified to the high efficacy requirements of California T24 JA8-2016 • UL listed for U.S. and Canada for damp locations • Union made • UL and cUL.

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

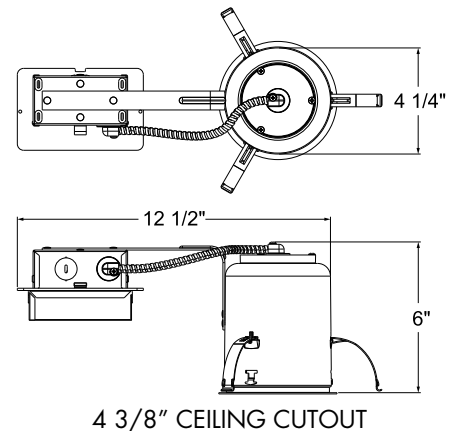
Specifications subject to change without notice.

HOUSING FEATURES

Housing 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 (5) 1/2" knockouts, (4) knockouts for 12/2 or 14/2 NM cable and ground wire • Junction box provided with removable access plates • Knockouts equipped with pryout slots • Quick connect electrical connectors supplied as standard for fast, secure installation.

DIMENSIONS



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 ECOS3)

	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"TC 1000 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

TC4RAL (10LM) RECESSED HOUSING DOWNLIGHT TRIMS

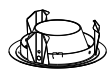
ORDERING INFORMATION Housing and trim can be ordered together or separate, but will always ship separately.

Example: TC4RAL 10LM 30K 90CRI FL 120 FRPC

Series	Lumens	Color Temperature	CRI	Distribution	Voltage	Driver
TC4RAL 4" LED Internally Adjustable Reconstruction Non IC Downlight	10LM 1000 Nominal Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K	90CRI 90+ CRI	FL Flood NFL Narrow Flood SP Spot	120 120V MVOLT Multi-Volt (120-277V)	ECOS3 Lumen Hi - Lume A Series, 3-wire fluorescent controls & Lutron Ecosystem FRPC Forward/ Reverse Phase Cut ZT 0 - 10V Dimming Driver

Notes: 120 must be ordered with FRPC. MVOLT can be ordered with either ZT or ECOS3

Trim/Description



42L BWH	4" Downlight Cone Trim - Black Alzak® Cone, White Trim Ring
42L CWH	4" Downlight Cone Trim - Clear Alzak® Cone, White Trim Ring
42L HZWH	4" Downlight Cone Trim - Haze Cone, White Trim Ring
42L PTSC	4" Downlight Cone Trim - Pewter Alzak® Cone, Satin Chrome Trim Ring
42L WHZABZ	4" Downlight Cone Trim - Wheat Haze Cone, Classic Aged Bronze Trim Ring
42L WHZWH	4" Downlight Cone Trim - Wheat Haze Cone, White Trim Ring
42L WWH	4" Downlight Cone Trim - Glass 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)

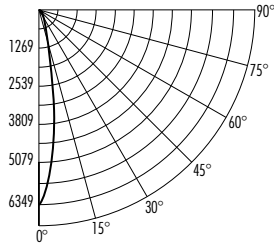
Catalog Number	Description
CGF 200 MPINK	Color Glass Filter - 2" Diameter - Medium Pink
CGF 200 WRED	Color Glass Filter - 2" Diameter - Warm Red
CGF 200 DLTBLUE	Color Glass Filter - 2" Diameter - Daylight Blue
CGF 200 MBLU	Color Glass Filter - 2" Diameter - Medium Blue
CGF 200 MAMB	Color Glass Filter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

4"TC 1000 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

TC4RAL (10LM) RECESSED HOUSING DOWNLIGHT TRIMS

PHOTOMETRIC REPORT

Test Report#: PT09152801R
Catalog No: IC4AL 10LM 35K 90CRI 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)

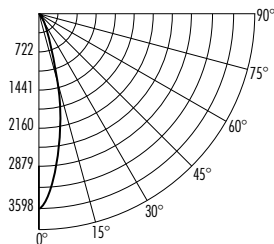
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	396.8	1.2
6	176.4	1.8
8	99.2	2.4
10	63.5	3.0

LUMINANCE (Average cd/m²)

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

PHOTOMETRIC REPORT

Test Report#: PT09152803R
Catalog No: IC4AL 10LM 35K 90CRI 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)

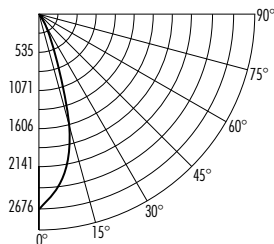
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	224.9	1.9
6	99.9	2.9
8	56.2	3.8
10	36.0	4.8

LUMINANCE (Average cd/m²)

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

PHOTOMETRIC REPORT

Test Report#: PT09152805R
Catalog No: IC4AL 10LM 35K 90CRI 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.