



Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

4" IC AND TC 700 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

IC4RAL, TC4RAL (07LM) RECESSED HOUSING
SQUARE TRIMS



PRODUCT DESCRIPTION

Patent pending dedicated LED, Air-Loc® remodel housing with integral internally adjustable light engine • IC4RAL series can be completely covered with insulation and installs in shallow 2 x 6 construction • TC4RAL 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) • Remodel housing for remodel application where back side of ceiling is not accessible • 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 65W 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 • Adjustable light engine module provides up to 35° vertical adjustment and 360° rotation.

Aesthetic Trim Selections Die cast aluminum square angle cut downlight, downlight only and lensed trim options • Downlights feature black insert to minimize glare at the aperture • Lensed trim 41LSQ is wet location approved for covered ceiling applications.

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 (41LSQ listed for wet locations, covered ceilings) • Union made • UL and cUL.

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

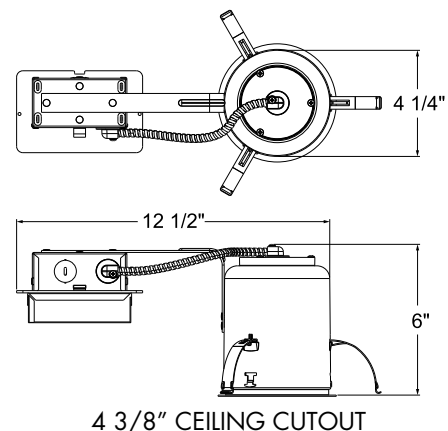
Specifications subject to change without notice.

HOUSING FEATURES

Housing IC4RAL designed for use in IC (insulated ceiling) or non-IC construction • TC4RAL 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	10.5W (+/-5%)
Input Current	0.10A
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	10.0W (+/-5%)
Input Current	0.04A
Frequency	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15, Class A (Commercial)
Minimum starting temp	-20°C (-4°F)

Lutron Hi-Lume® LED Driver (MVOLT ECOD)

120V	277V
Input Power	11.1W (+/-5%)
Input Current	0.10A
Frequency	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15, Class A (Commercial)
Minimum starting temp	0°C (32°F)

4" IC AND TC 700 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

IC4RAL (07LM), TC4RAL (07LM) RECESSED HOUSING SQUARE TRIMS

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

Example: IC4RAL 07LM 30K 90CRI FL 120 FRPC

Series	Lumens	Color Temperature	CRI	Distribution	Voltage	Driver
IC4RAL 4" LED Internally Adjustable Remodel IC Downlight	07LM 700 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)	FRPC Forward/ Reverse Phase Cut ZT 0 - 10V Dimming Driver

Example: TC4RAL 07LM 30K 90CRI FL MVOLT ECOD

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

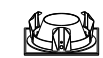
Series	Lumens	Color Temperature	CRI	Distribution	Voltage	Driver
TC4RAL 4" LED Internally Adjustable Remodel Non IC Downlight	07LM 700 Nominal Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K	90CRI 90+ CRI	FL Flood NFL Narrow Flood SP Spot	MVOLT Multi-Volt	ECOD† Lutron Hi-Lume EcoSystem, 1% Dimming

†: ECOD driver not ENERGY STAR® certified

Trim/Description



- 47LSQ BWH** 4" Square Adjustable Angle Cut Reflector Trim - Black, White Trim Ring
47LSQ HZWH 4" Square Adjustable Angle Cut Reflector Trim - Haze, White Trim Ring
47LSQ WHZWH 4" Square Adjustable Angle Cut Reflector Trim - Wheat Haze, White Trim Ring
47LSQ WWH 4" Square Adjustable Angle Cut Reflector Trim - White, White Trim Ring



- 42LSQ BWH** 4" Square Downlight Reflector Trim - Black, White Trim Ring
42LSQ HZWH 4" Square Downlight Reflector Trim - Haze, White Trim Ring
42LSQ WHZWH 4" Square Downlight Reflector Trim - Wheat Haze, White Trim Ring
42LSQ WWH 4" Square Downlight Reflector Trim - White, White Trim Ring



- 41LSQ WH*** 4" Square Adjustable Lens Shower Trim - White Trim Ring



Trim Size: 5" O.D.

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

* Wet Location

Accessories (ordered separately)

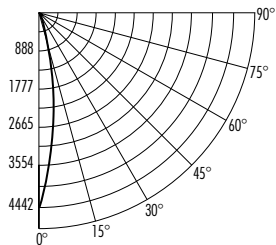
Catalog Number	Description
CGF 200 MPINK	Color Glass Filter - 2" Diameter - Medium Pink
CGF 200 WRED	Color Glass Filter - 2" Diameter - Warm Red
CGF 200 DLTBLUE	Color Glass Filter - 2" Diameter - Daylight Blue
CGF 200 MBLU	Color Glass Filter - 2" Diameter - Medium Blue
CGF 200 MAMB	Color Glass Filter - 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" IC AND TC 700 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

IC4RAL (07LM), TC4RAL (07LM) RECESSED HOUSING
SQUARE TRIMS

PHOTOMETRIC REPORT

Test Report#: PT09152802R
Catalog No: IC4AL 07LM 30K 90CRI SP 120
FRPC with 42LSQ HZWH, Downlight Cone Haze
Finish Square Trim and Spot Optic
Luminaire Spacing Criteria: 0.30
Luminaire LPW: 64



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	4442
5	3387
15	922
25	164
35	23
45	3
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'	48	44	41
5.0'	31	28	26
6.0'	21	20	18
7.0'	17	16	15
8.0'	14	13	12
9.0'	10	10	9
10.0'	8	7	6

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	650	N/A	96.0
0-40°	672	N/A	99.4
0-60°	677	N/A	100.0
0-90°	677	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 10.5W, 17.0° Beam)

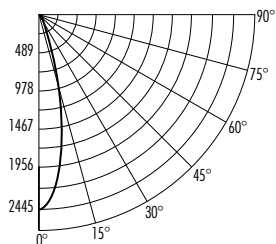
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	277.6	1.2
6	123.4	1.8
8	69.4	2.4
10	44.4	3.0

LUMINANCE (Average cd/m²)

Degrees	Average 0° Luminance
45	631
55	0
65	0
75	0
85	0

PHOTOMETRIC REPORT

Test Report#: PT09152804R
Catalog No: IC4AL 07LM 30K 90CRI NFL 120
FRPC with 42LSQ HZWH, Downlight Cone Haze
Finish Square Trim and Narrow Flood Optic
Luminaire Spacing Criteria: 0.48
Luminaire LPW: 61



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	2445
5	2302
15	1089
25	158
35	43
45	5
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'	45	41	38
5.0'	29	27	24
6.0'	20	18	17
7.0'	16	15	14
8.0'	13	12	11
9.0'	10	9	8
10.0'	7	7	6

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	604	N/A	93.8
0-40°	637	N/A	98.9
0-60°	644	N/A	100.0
0-90°	644	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 10.5W, 27.7° Beam)

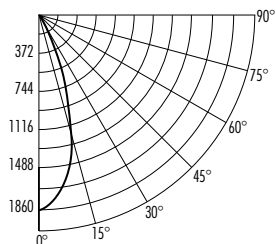
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	152.8	2.0
6	67.9	3.0
8	38.2	3.9
10	24.5	4.9

LUMINANCE (Average cd/m²)

Degrees	Average 0° Luminance
45	939
55	0
65	0
75	0
85	0

PHOTOMETRIC REPORT

Test Report#: PT09152806R
Catalog No: IC4AL 07LM 30K 90CRI FL 120
FRPC with 42LSQ HZWH, Downlight Cone Haze
Finish Square Trim and Flood Optic
Luminaire Spacing Criteria: 0.60
Luminaire LPW: 71



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	1860
5	1788
15	1186
25	370
35	79
45	7
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'	52	47	42
5.0'	33	30	27
6.0'	23	21	19
7.0'	19	17	15
8.0'	15	13	12
9.0'	11	10	9
10.0'	8	8	7

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	673	N/A	90.6
0-40°	732	N/A	98.6
0-60°	743	N/A	100.0
0-90°	743	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 10.5W, 34.7° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	116.3	2.5
6	51.7	3.7
8	29.1	5.0
10	18.6	6.2

LUMINANCE (Average cd/m²)

Degrees	Average 0° Luminance
45	1376
55	0
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.

4" IC AND TC 700 LUMEN INTERNALLY ADJUSTABLE LED DOWNLIGHT REMODEL

IC4RAL (07LM), TC4RAL (07LM) RECESSED HOUSING
SQUARE TRIMS

PHOTOMETRIC REPORT

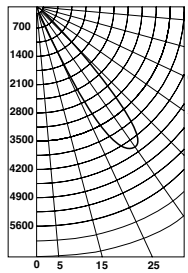
Test Report: PT09153002R

Catalog No: IC4AL 07LM 35K 90CRI
SP 120 FRPC with 47LSQ HZWH and Spot Optic

Watts: 10.5

Lumens: 730

Luminaire LPW: 69



Candlepower Distribution

(Candelas)

Degrees Vertical	Candela
0°	63
5°	122
10°	271
15°	527
20°	913
25°	1746
30°	3337
35°	4499
40°	3473
45°	1794
50°	841
55°	275
60°	71
65°	23
70°	10
75°	3
80°	0
85°	0
90°	0

PHOTOMETRIC REPORT

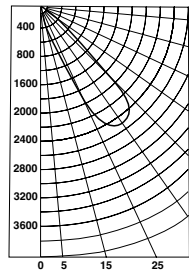
Test Report: PT09152922R

Catalog No: IC4AL 07LM 35K 90CRI
NFL 120 FRPC with 47LSQ HZWH and Narrow Flood Optic

Watts: 10.5

Lumens: 735

Luminaire LPW: 70



Candlepower Distribution

(Candelas)

Degrees Vertical	Candela
0°	63
5°	108
10°	208
15°	487
20°	1121
25°	1909
30°	2407
35°	2573
40°	2400
45°	1928
50°	1220
55°	448
60°	106
65°	54
70°	24
75°	6
80°	0
85°	0
90°	0

PHOTOMETRIC REPORT

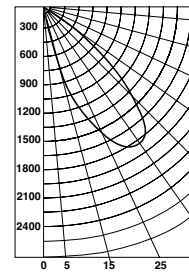
Test Report: PT09152902R

Catalog No: IC4AL 07LM 35K 90CRI
FL 120 FRPC with 47LSQ HZWH and Flood Optic

Watts: 10.5

Lumens: 780

Luminaire LPW: 74



Candlepower Distribution

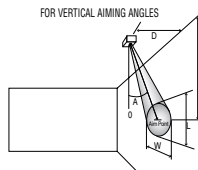
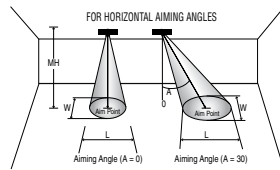
(Candelas)

Degrees Vertical	Candela
0°	118
5°	238
10°	467
15°	796
20°	1204
25°	1581
30°	1821
35°	1884
40°	1750
45°	1463
50°	1044
55°	541
60°	281
65°	140
70°	54
75°	9
80°	0
85°	0
90°	0

CBCP • Centerbeam candlepower

FC • Footcandles at beam center (aim point)

In vertical aiming applications, aim point (X) is determined by dividing distance from the wall (D) by the tangent of the desired aim angle (A) (0.5774 for 30°, 1.0 for 45°).



Horizontal Aiming Angles

Vertical Aiming Angles

FIXTURE	Beam Type	Beam Spread°	CBCP	0°				30°			30°				
				MH	FC	L	W	FC	L	W	D	FC	X	L	W
IC4AL (07LM) LED, 3500K Spot	SP	18° 	4499	4	281	1.3	1.3	183	1.7	1.5	2	141	3.5	2.7	1.3
				6	125	1.9	1.9	81	2.6	2.2	3	62	5.2	4.1	1.9
				8	70	2.5	2.5	46	3.4	2.9	4	35	6.9	5.5	2.5
				10	45	3.2	3.2	29	4.3	3.7	5	22	8.7	6.9	3.2
				12	31	3.8	3.8	20	5.1	4.4	6	16	10.4	8.2	3.8
IC4AL (07LM) LED, 3500K Narrow Flood	NFL	30° 	2573	4	161	2.1	2.1	104	2.9	2.5	2	80	3.5	5.5	2.1
				6	71	3.2	3.2	46	4.4	3.7	3	36	5.2	8.2	3.2
				8	40	4.3	4.3	26	5.9	5.0	4	20	6.9	10.9	4.3
				10	26	5.4	5.4	17	7.3	6.2	5	13	8.7	13.7	5.4
				12	18	6.4	6.4	12	8.8	7.4	6	9	10.4	16.4	6.4
IC4AL (07LM) LED, 3500K Flood	FL	40° 	1884	4	118	2.9	2.9	76	4.1	3.4	2	59	3.5	9.7	2.9
				6	52	4.4	4.4	34	6.1	5.0	3	26	5.2	14.5	4.4
				8	29	5.8	5.8	19	8.1	6.7	4	15	6.9	19.3	5.8
				10	19	7.3	7.3	12	10.2	8.4	5	9	8.7	24.2	7.3
				12	13	8.7	8.7	8	12.2	10.1	6	7	10.4	29.0	8.7

Multipliers:

27K - 0.93 35K - 1.00

30K - 0.96 40K - 1.03

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.