



LOW PROFILE 3-1/4" LED RECESSED ADJUSTABLE 800/1200/1500/2000 LUMEN SQUARE LENSED ANGLE CUT

TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 431SQ Trim



PRODUCT DESCRIPTION

Low Profile recessed adjustable LED luminaire is less than 4" tall with 3 1/4" square lensed angle cut reflector produces up to 1800 delivered lumens. Fixture has 45° visual cutoff and features precision geared hot-aiming. Available in both IC and Non-IC rated configurations.

PRODUCT SPECIFICATIONS

LED Light Engine Consistent fixture to fixture color within 3-step MacAdam ellipse • 2700K, 3000K, 3500K, or 4000K color temperatures are available with 80 CRI minimum • 2700K and 3000K also available with 90 CRI minimum.

Modular Optics Available with 12° Spot, 24° Narrow Flood, 35° Flood and 50° wide flood field interchangeable optics • Additional distributions of 20°, 30°, 40°, 45° and 60° FWHM can be achieved with the use of the diffusing films and spot primary optic • Patented (US Patent 8,950,911) auto-adjusting optic holder maximizes luminaire efficiency by maintaining optimal LED optic position • Accommodates up to two (2) additional beam control lenses and/or filters.

Adjustability Acu-Aim™ precision geared hot-aiming achieves 370° rotation, 45° tilt • Optimized center beam optics translates light engine forward as it is aimed off nadir, ensuring maximum light and low brightness • Black aiming mechanism preserves dark aperture.

Reflector Die cast, angle-cut, parabolic reflector maintains low glare, tight corners, and 50° cut-off • Available in haze, black haze, wheat haze, or white finishes.

Trims Style Self Flanged and Flush Mount reflectors utilize precision wound double torsion springs for tight, secure fit to ceiling • Flange is same finish as reflector unless optional painted white flange is specified • For flush mount installations in drywall ceilings use the FMSQ4 flush mount adapter • For flush mount installations in wood, stone, or tile ceilings the FMSQ4-SC*** must be used (specify ceiling thickness and adapter finish).

LED Driver Seven (7) driver options available to accommodate 120-277V input and multiple control protocols • For a list of compatible dimmers, refer to [ACLXLED3-DIM](#) • Power Factor > 0.9 • Field replaceable from below or above ceiling.

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 • IC housings meet energy code Air Leakage requirements per ASTM E283 • ENERGY STAR® Qualified with select trims • IC rated luminaires with 90CRI light engine are certified to high efficacy requirements of California T24 with select color temperatures and trims • IC housings are rated for direct contact with insulation • IC408LPSQ and IC412LPSQ are compatible with spray foam insulation with an R-Value of 3.7 per inch or less • Union made.

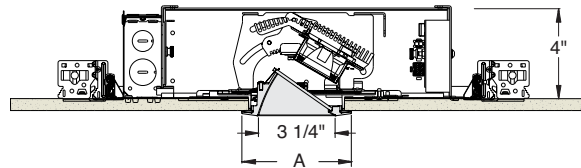
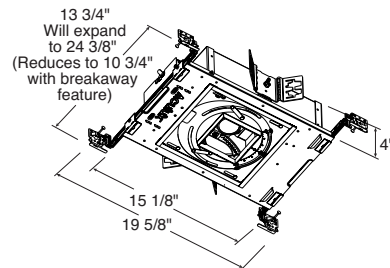
New Construction Mounting Shallow new construction fixture is less than 4" tall for applications with limited space • Features patented (US Patent 8,038,113) Pro-VI™ bar hanger system, permitting quick placement of housing with 24" on-center joists or suspended ceilings and vertically adjustable mounting brackets (butterfly brackets) • Centerline indicators on plaster frame and patented (US Patent 8,277,090) Tru-Line™ Platform featuring +/- 1/2" translation aids fixture alignment after installation, prior to drywall.

Junction Box Rated for 4 No. 12 AWG 90° C through branch circuit conductors and includes (6) 1/2", (1) 3/4", and (4) Non-metallic sheathed cable knock-outs • Push-in electrical connectors for field connections.

Ceiling Thickness 1/2" – 7/8" ceiling standard • For thicker ceilings, order CTA4SQ-125 (7/8"-1 1/4"), CTA4SQ-163 (1 1/4"-1 5/8") or CTA4SQ-200 (1 5/8" – 2") • CTA4SQ not required for wood, stone, or tile flush mount applications.

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

DIMENSIONS



4 1/8" CEILING CUTOUT
(REFER TO INSTRUCTION SHEET FOR FLUSH MOUNT CEILING CUTOUT)

	A
Self Flanged	4 1/2"
Flush Mount	3 5/8"

ELECTRICAL DATA

Lumen Package	800		1200		1500		2000	
Voltage	120	277	120	277	120	277	120	277
Input Power	9.6W	9.7W	15.1W	15.3W	19.8W	19.8W	27.0W	26.7
Input Current	0.08	0.04	0.13	0.06	0.17	0.08	0.23	0.10
Frequency	50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Power Factor	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9

LOW PROFILE 3-1/4" LED RECESSED ADJUSTABLE 800/1200/1500/2000 LUMEN SQUARE LENSED ANGLE CUT TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 431SQ Trim

Ordering Information Housing, trim and accessories each ordered separately

Example: **TC420LPSQ-830-N-1**

Series	CRI/Color Temperature	Optic	Driver	Options
IC408LPSQ 800 Lumen, IC Rated	827 2700K, 80CRI	S 12° Spot	I 120V, Forward & Reverse Phase Dimming, 5%	CP* Chicago Plenum
IC412LPSQ 1200 Lumen, IC Rated	830 3000K, 80CRI	N 24° Narrow Flood	EZ1 120-277V, eldoLED ECOdrive 0-10V Dimming, 1%	N1¹ nLight® dimming pack, 120V
IC415LPSQ 1500 Lumen, IC Rated	835 3500K, 80CRI	F 35° Flood	EZB 120-277V, eldoLED SOLOdrive 0-10V Dimming, 0.1%	N2¹ nLight® dimming pack, 277V
TC420LPSQ 2000 Lumen, Non-IC Rated	840 4000K, 80CRI	W 50° Wide Flood	L 120-277V, Lutron Hi-Lume 3-Wire Dimming, Ecosystem Compatible, 1%	CPNL^{1,2} nLight® dimming pack and Chicago Plenum rated
	927 2700K, 90CRI		D 120V, Lutron Hi-Lume 2-Wire Dimming, 1%	*Chicago Plenum not available on TC420LPSQ
	930 3000K, 90CRI		M 120-277V, DMX512/RDM	¹ Available with eldoLED drivers only
			A 120-277V, DALI Dimming	² nLight® NPS80EZ ships loose for remote mounting

Example: **431SQW-SF**

Trim



Self Flanged ¹	Flush Mount ²	Description
431SQBHZ-SF	431SQBHZ-FM	Black Haze Reflector
431SQHZ-SF	431SQHZ-FM	Haze Reflector
431SQW-SF	431SQW-FM	White Reflector
431SQWHZ-SF	431SQWHZ-FM	Wheat Haze Reflector

¹For self flanged reflector with optional white painted flange, replace “-SF” suffix with “-SFWH”.

²Flush Mount trims must be used with Flush Mount Adapter, ordered separately.

Product specifications subject to change without notice.

	Construction:	Type IC & Non-IC
	CCT/CRI:	827, 830, 835, 840
	Optic:	S, N, F
	Trim Finish:	HZ, WHZ, W

	Construction:	Type IC
	CCT/CRI:	927, 930
	Optic:	S, N, F
	Trim Finish:	HZ, WHZ, W

LOW PROFILE 3-1/4" LED RECESSED ADJUSTABLE 800/1200/1500/2000 LUMEN SQUARE LENSED ANGLE CUT TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 431SQ Trim

To achieve the desired beam angle (FWHM), specify the following primary LED optic on the luminaire and order the diffusing film from the table below

Desired FWHM	Primary Optic	Film
12°	S	-
20°	S	AF3-10
24°	N	-
30°	S	AF3-20
35°	F	-
40°	S	AF3-30
45°	S	AF3-40
50°	W	-
60°	S	AF3-50
20°x60°	S	AF3-60x1

Flush Mount Adapters

Cat. #	Description
FMASQ4	Drywall Ceiling Adapter
FMASQ4-SC100-WH	Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, White
FMASQ4-SC100-BL	Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, Black
FMASQ4-SC138-WH	Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, White
FMASQ4-SC138-BL	Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, Black
FMASQ4-SC175-WH	Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, White
FMASQ4-SC175-BL	Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, Black

Optical Accessories

Cat. #	Description	Cat. #	Description
TIR-ACLX3-SP	12° Spot Optic	T746	Med. Green Color Filter
TIR-ACLX3-NFL	24° Narrow Flood Optic	T7401	Red Dichroic Lens
TIR-ACLX3-FL	35° Flood Optic	T7403	Med. Green Dichroic Lens
TIR-ACLX3-WFL	50° Wide Flood Optic	T7404	Med. Blue Dichroic Lens
AF3-10	10° Film (Use with Spot Optic)	T7405	Yellow Dichroic Lens
AF3-20	20° Film (Use with Spot Optic)	T7406	Magenta Dichroic Lens
AF3-30	30° Film (Use with Spot Optic)	T7411	Blue Green Dichroic Lens
AF3-40	40° Film (Use with Spot Optic)	T7416	Daylight Blue Correction Lens
AF3-50	50° Film (Use with Spot Optic)	T7420	Diffuse Spread Lens
AF3-60x1	60°x1° Film (Use with Spot Optic)	T7421	Uniformity Lens
T741	Med. Pink Color Filter	T7422	UV Filter Lens
T742	Warm Red Color Filter	T7477	Prismatic Lens
T743	Daylight Blue Color Filter	T7478	Linear Spread Lens
T744	Med. Blue Color Filter	T7459BL	Hexcell Louver
T745	Med. Amber Color Filter		

Product specifications subject to change without notice.

Misc. Accessories

Cat. #	Description
CTA45Q-125	1 1/4" Thick Ceiling Adapter
CTA45Q-163	1 5/8" Thick Ceiling Adapter
CTA45Q-200	2" Thick Ceiling Adapter
HB-1	(2) Real Nail 3 Bar Hangers
HB-26	(2) 26" C-Channel Bar Hangers
HB-50	(2) 50" C-Channel Bar Hangers
LB-27	(2) 27" Linear Bar Hangers
EMI-20	20W Emergency Lighting Inverter

To order, specify catalog number.



JUNO LIGHTING GROUP
an Acuity Brands company

1300 S. Wolf Road • Des Plaines, IL 60018 • Phone (847) 827-9880 • Fax (847) 827-2925
Visit us at www.junolightinggroup.com

Printed in U.S.A. ©2016 Acuity Brands Lighting, Inc.

LOW PROFILE 3-1/4" LED RECESSED ADJUSTABLE

800/1200/1500/2000 LUMEN

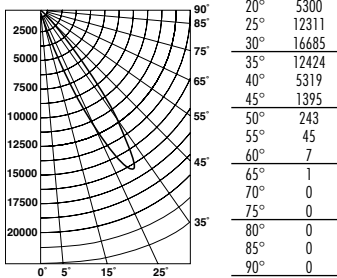
SQUARE LENSED ANGLE CUT

TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 431SQ Trim

SPOT PHOTOMETRIC REPORT

Test Report: PT05150506
Catalog No: IC/TC420LSQ-830-S-1
(Aim at 30°)
with 431SQHZ trim

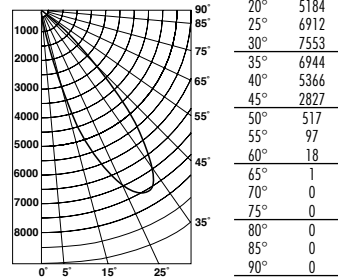
Watts: 26.2
Lumens: 1657
Luminaire LPW: 63



NARROW FLOOD PHOTOMETRIC REPORT

Test Report: PT05150606
Catalog No: IC/TC420LSQ-830-N-1
(Aim at 30°)
with 431SQHZ trim

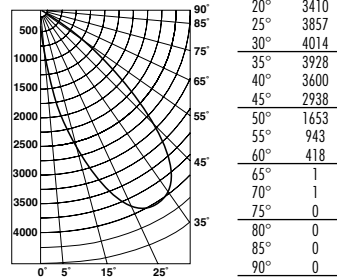
Watts: 26.2
Lumens: 1710
Luminaire LPW: 65



FLOOD PHOTOMETRIC REPORT

Test Report: PT05150706
Catalog No: IC/TC420LSQ-830-F-1
(Aim at 30°)
with 431SQHZ trim

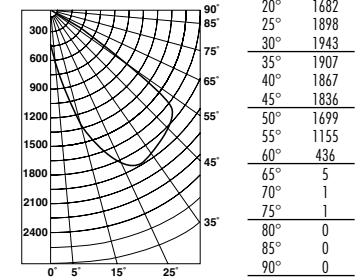
Watts: 26.2
Lumens: 1767
Luminaire LPW: 67



WIDE FLOOD PHOTOMETRIC REPORT

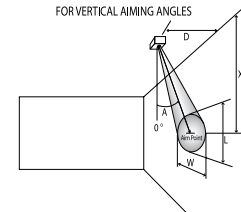
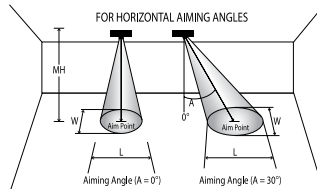
Test Report: PT05150806
Catalog No: IC/TC420LSQ-830-W-1
(Aim at 30°)
with 431SQHZ trim

Watts: 26.2
Lumens: 1471
Luminaire LPW: 56



LUMEN OUTPUT MULTIPLIERS

Color Temperature	CRI	Multiplier	Lumen Package	Multiplier
2700K	80	0.95	800	0.40
3000K	80	1.00	1200	0.61
3500K	80	1.05	1500	0.75
4000K	80	1.10	2000	1.00
2700K	90	0.83		
3000K	90	0.87		



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°).



Beam Type	Beam Spread°	CBCP	0°			30°			30°			45°						
			MH	FC	L W	FC	L W	D	FC	X L W	FC	X L W						
SPT	12°	16685	6	463	1.6	1.6	301	2.2	1.9	3	232	5.2	3.4	1.6	655	3.0	1.7	1.1
			8	261	2.2	2.2	169	2.9	2.5	4	130	6.9	4.6	2.2	369	4.0	2.2	1.5
			10	167	2.7	2.7	108	3.6	3.1	5	83	8.7	5.7	2.7	236	5.0	2.8	1.9
			12	116	3.2	3.2	75	4.4	3.7	6	58	10.4	6.9	3.2	164	6.0	3.3	2.3
NFL	24°	7553	14	85	3.8	3.8	55	5.1	4.4	7	43	12.1	8.0	3.8	120	7.0	3.9	2.7
			4	472	1.9	1.9	307	2.5	2.1	2	236	3.5	4.4	1.9	668	2.0	2.0	1.3
			6	210	2.8	2.8	136	3.8	3.2	3	105	5.2	6.7	2.8	297	3.0	3.0	2.0
			8	118	3.7	3.7	77	5.1	4.3	4	59	6.9	8.9	3.7	167	4.0	3.9	2.6
FL	35°	4014	10	76	4.7	4.7	49	6.3	5.4	5	38	8.7	11.1	4.7	107	5.0	4.9	3.3
			12	52	5.6	5.6	34	7.6	6.4	6	26	10.4	13.3	5.6	74	6.0	5.9	3.9
			4	251	2.7	2.7	163	3.8	3.2	2	125	3.5	8.4	2.7	355	2.0	3.1	1.9
			6	112	4.1	4.1	72	5.7	4.7	3	56	5.2	12.6	4.1	158	3.0	4.6	2.9
WFL	50°	1943	8	63	5.5	5.5	41	7.6	6.4	4	31	6.9	16.8	5.5	89	4.0	6.2	3.9
			10	40	6.8	6.8	26	9.5	7.9	5	20	8.7	21.0	6.8	57	5.0	7.7	4.8
			12	28	8.2	8.2	18	11.4	9.5	6	14	10.4	25.2	8.2	39	6.0	9.3	5.8
			4	121	3.8	3.8	79	5.4	4.3	2	61	3.5	22.2	3.8	172	2.0	4.8	2.7
			6	54	5.6	5.6	35	8.1	6.5	3	27	5.2	33.3	5.6	76	3.0	7.2	4.0
			8	30	7.5	7.5	20	10.8	8.7	4	15	6.9	44.4	7.5	43	4.0	9.6	5.3
			10	19	9.4	9.4	13	13.5	10.8	5	10	8.7	55.4	9.4	27	5.0	12.0	6.6
			12	13	11.3	11.3	9	16.2	13.0	6	7	10.4	66.5	11.3	19	6.0	14.5	8.0