



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

**TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 438SQ Trim**

## PRODUCT DESCRIPTION

Low Profile recessed adjustable LED luminaire is less than 4" tall with 3 1/4" square angle cut reflector produces up to 2000 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, damp 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.

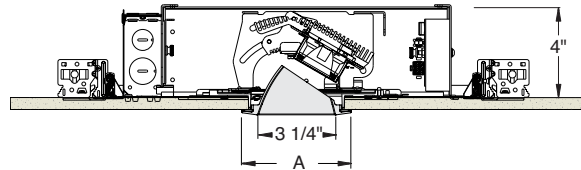
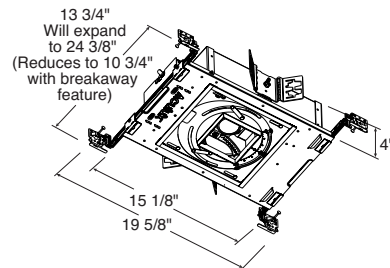
**Junction Box** Rated for 4 No. 12 AWG 90° C through branch circuit conductors and includes (6) 1/2", (1) 3/4", and (4) Non-metallic sheathed cable knock-outs • Push-in electrical connectors for field connections.

**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

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**Ordering Information** Housing, trim and accessories each ordered separately

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

Series	CRI/Color Temperature	Optic	Driver	Options
<b>IC408LPSQ</b> 800 Lumen, IC Rated	<b>827</b> 2700K, 80CRI	<b>S</b> 12° Spot	<b>I</b> 120V, Forward & Reverse Phase Dimming, 5%	<b>CP*</b> Chicago Plenum
<b>IC412LPSQ</b> 1200 Lumen, IC Rated	<b>830</b> 3000K, 80CRI	<b>N</b> 24° Narrow Flood	<b>EZ1</b> 120-277V, eldoLED ECOdrive 0-10V Dimming, 1%	<b>N1<sup>1</sup></b> nLight® dimming pack, 120V
<b>IC415LPSQ</b> 1500 Lumen, IC Rated	<b>835</b> 3500K, 80CRI	<b>F</b> 35° Flood	<b>EZB</b> 120-277V, eldoLED SOLOdrive 0-10V Dimming, 0.1%	<b>N2<sup>1</sup></b> nLight® dimming pack, 277V
<b>TC420LPSQ</b> 2000 Lumen, Non-IC Rated	<b>840</b> 4000K, 80CRI	<b>W</b> 50° Wide Flood	<b>L</b> 120-277V, Lutron Hi-Lume 3-Wire Dimming, Ecosystem Compatible, 1%	<b>CPNL<sup>1,2</sup></b> nLight® dimming pack and Chicago Plenum rated
	<b>927</b> 2700K, 90CRI		<b>D</b> 120V, Lutron Hi-Lume 2-Wire Dimming, 1%	*Chicago Plenum not available on TC420LPSQ
	<b>930</b> 3000K, 90CRI		<b>M</b> 120-277V, DMX512/RDM	<sup>1</sup> Available with eldoLED drivers only
			<b>A</b> 120-277V, DALI Dimming	<sup>2</sup> nLight® NPS80EZ ships loose for remote mounting

Example: **438SQHZ-SF**

**Trim**



Self Flanged <sup>1</sup>	Flush Mount <sup>2</sup>	Description
<b>438SQBHZ-SF</b>	<b>438SQBHZ-FM</b>	Black Haze Reflector
<b>438SQHZ-SF</b>	<b>438SQHZ-FM</b>	Haze Reflector
<b>438SQW-SF</b>	<b>438SQW-FM</b>	White Reflector
<b>438SQWHZ-SF</b>	<b>438SQWHZ-FM</b>	Wheat Haze Reflector

<sup>1</sup>For self flanged reflector with optional white painted flange, replace "-SF" suffix with "-SFWH".

<sup>2</sup>Flush Mount trims must be used with Flush Mount Adapter, ordered separately.

Product specifications subject to change without notice.

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

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

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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
<b>FMSQ4</b>	Drywall Ceiling Adapter
<b>FMSQ4-SC100-WH</b>	Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, White
<b>FMSQ4-SC100-BL</b>	Wood, Stone, Tile, 1/2"-1" Thick Ceiling, Adapter, Black
<b>FMSQ4-SC138-WH</b>	Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, White
<b>FMSQ4-SC138-BL</b>	Wood, Stone, Tile, 1"-1 3/8" Thick Ceiling, Adapter, Black
<b>FMSQ4-SC175-WH</b>	Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, White
<b>FMSQ4-SC175-BL</b>	Wood, Stone, Tile, 1 3/8"-1 3/4" Thick Ceiling, Adapter, Black

### Optical Accessories

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

Product specifications subject to change without notice.

### Misc. Accessories

Cat. #	Description
<b>CTA45Q-125</b>	1 1/4" Thick Ceiling Adapter
<b>CTA45Q-163</b>	1 5/8" Thick Ceiling Adapter
<b>CTA45Q-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.



# LOW PROFILE 3-1/4" LED RECESSED ADJUSTABLE 800/1200/1500/2000 LUMEN

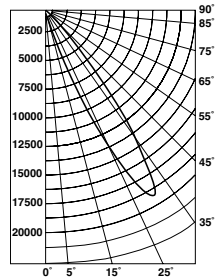
SQUARE ANGLE CUT

## TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 438SQ Trim

### SPOT PHOTOMETRIC REPORT

Test Report: PT05150501  
Catalog No: IC/TC420LSQ-830-S-1  
(Aim at 30°)  
with 438SQHZ trim

Watts: 26.2  
Lumens: 1826  
Luminaire LPW: 70



### Candlepower Distribution

(Candelas)

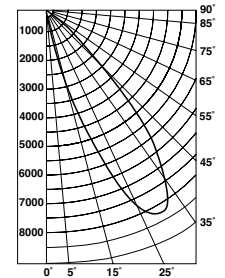
Degrees

Vertical Candela

### NARROW FLOOD PHOTOMETRIC REPORT

Test Report: PT05150601  
Catalog No: IC/TC420LSQ-830-N-1  
(Aim at 30°)  
with 438SQHZ trim

Watts: 26.2  
Lumens: 1870  
Luminaire LPW: 71



### Candlepower Distribution

(Candelas)

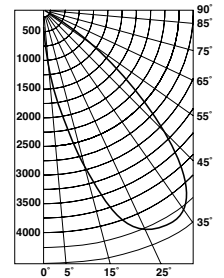
Degrees

Vertical Candela

### FLOOD PHOTOMETRIC REPORT

Test Report: PT05150701  
Catalog No: IC/TC420LSQ-830-F-1  
(Aim at 30°)  
with 438SQHZ trim

Watts: 26.2  
Lumens: 1928  
Luminaire LPW: 74



### Candlepower Distribution

(Candelas)

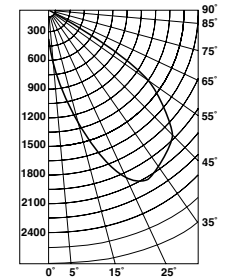
Degrees

Vertical Candela

### WIDE FLOOD PHOTOMETRIC REPORT

Test Report: PT05150801  
Catalog No: IC/TC420LSQ-830-W-1  
(Aim at 30°)  
with 438SQHZ trim

Watts: 26.2  
Lumens: 1620  
Luminaire LPW: 62



### Candlepower Distribution

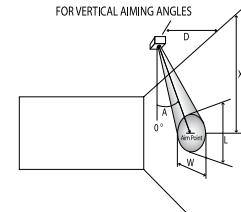
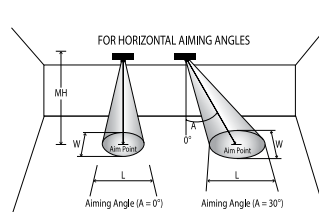
(Candelas)

Degrees

Vertical Candela

### 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°	18899	6	525	1.6	1.6	341	2.1	1.8	3	262	5.2	3.4	1.6	742	3.0	1.6	1.1
			8	295	2.1	2.1	192	2.8	2.4	4	148	6.9	4.5	2.1	418	4.0	2.2	1.5
			10	189	2.7	2.7	123	3.6	3.1	5	94	8.7	5.6	2.7	267	5.0	2.7	1.9
			12	131	3.2	3.2	85	4.3	3.7	6	66	10.4	6.7	3.2	186	6.0	3.2	2.2
			14	96	3.7	3.7	63	5.0	4.3	7	48	12.1	7.8	3.7	136	7.0	3.8	2.6
NFL	24°	8303	4	519	1.9	1.9	337	2.5	2.1	2	259	3.5	4.4	1.9	734	2.0	2.0	1.3
			6	231	2.8	2.8	150	3.8	3.2	3	115	5.2	6.6	2.8	326	3.0	2.9	2.0
			8	130	3.7	3.7	84	5.0	4.3	4	65	6.9	8.8	3.7	183	4.0	3.9	2.6
			10	83	4.7	4.7	54	6.3	5.4	5	42	8.7	11.1	4.6	117	5.0	4.9	3.3
FL	35°	4372	12	58	5.6	5.6	37	7.6	6.4	6	29	10.4	13.3	5.6	82	6.0	5.9	3.9
			4	273	2.7	2.7	177	3.8	3.2	2	137	3.5	8.4	2.7	386	2.0	3.1	1.9
			6	121	4.1	4.1	79	5.7	4.7	3	61	5.2	12.7	4.1	172	3.0	4.7	2.9
			8	68	5.5	5.5	44	7.6	6.3	4	34	6.9	16.9	5.5	97	4.0	6.2	3.9
WFL	50°	2123	10	44	6.8	6.8	28	9.5	7.9	5	22	8.7	21.1	6.8	62	5.0	7.8	4.8
			12	30	8.2	8.2	20	11.4	9.5	6	15	10.4	25.3	8.2	43	6.0	9.3	5.8
			4	133	3.7	3.7	86	5.4	4.3	2	66	3.5	21.9	3.7	188	2.0	4.8	2.6
			6	59	5.6	5.6	38	8.1	6.5	3	29	5.2	32.9	5.6	83	3.0	7.2	4.0
			8	33	7.5	7.5	22	10.8	8.7	4	17	6.9	43.9	7.5	47	4.0	9.6	5.3
			10	21	9.4	9.4	14	13.5	10.8	5	11	8.7	54.8	9.4	30	5.0	12.0	6.6
			12	15	11.2	11.2	10	16.2	13.0	6	7	10.4	65.8	11.2	21	6.0	14.4	7.9

