



LOW PROFILE 3-1/4" LED RECESSED DOWNLIGHT

800/1200/1500/2000 LUMEN

SQUARE LENSED DOWNLIGHT

TC420LPSQ, IC415LPSQ, IC412LPSQ, IC408LPSQ with 432SQ Trim



PRODUCT DESCRIPTION

Low Profile recessed downlight LED luminaire is less than 4" tall with 3 1/4" square lensed downlight 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.

Reflector Lensed, 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 FMASQ4 flush mount adapter • For flush mount installations in wood, stone, or tile ceilings the FMASQ4-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.

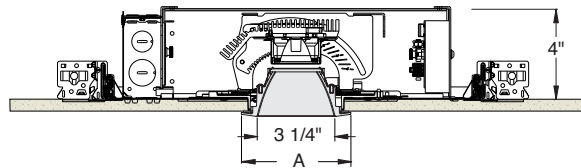
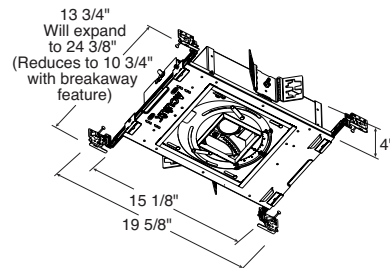
New Construction Mounting Shallow new construction fixture is less than 4" tall for applications with limited space • Features patented (US Patent 8,038,113) Pro-VI™ bar hanger system, permitting quick placement of housing with 24" on-center joists or suspended ceilings and vertically adjustable mounting 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

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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
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: **432SQW-SF**

Trim



Self Flanged ¹	Flush Mount ²	Description
432SQBHZ-SF	432SQBHZ-FM	Black Haze Reflector
432SQHZ-SF	432SQHZ-FM	Haze Reflector
432SQW-SF	432SQW-FM	White Reflector
432SQWHZ-SF	432SQWHZ-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:	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
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.

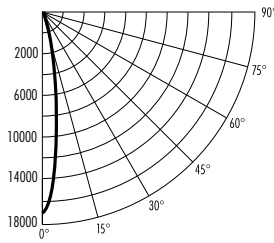
LUMEN OUTPUT MULTIPLIERS

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		



**SPOT
PHOTOMETRIC REPORT**

Test Report #: PT04153004
 Catalog No: IC/TC420LSQ-830-S-1
 with 432SQHZ trim
 Luminaire Spacing Criterion: 0.28
 Luminaire LPW: 66



**CANDLEPOWER
DISTRIBUTION
(Candelas)**

Degrees Vertical	0°
0	17295
5	12768
15	1878
25	201
35	36
45	5
55	3
65	1
75	1
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'	123	114	108
5.0'	78	73	69
6.0'	54	51	48
7.0'	44	41	39
8.0'	35	32	31
9.0'	27	25	23
10.0'	20	18	17

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	1672	97.1
0-40°	1709	99.3
0-60°	1719	99.9
0-90°	1721	100.0

INITIAL FOOTCANDLES
 (One Unit, 26.2W, 15.4° Beam)

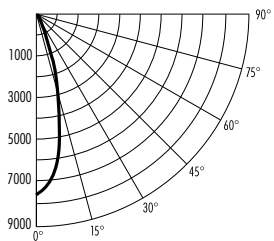
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
6	480.4	1.6'
8	270.2	2.2'
10	173.0	2.7'
12	120.1	3.2'

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	1127
55	694
65	524
75	399
85	399

**NARROW FLOOD
PHOTOMETRIC REPORT**

Test Report #: PT05150104
 Catalog No: IC/TC420LSQ-830-N-1
 with 432SQHZ trim
 Luminaire Spacing Criterion: 0.46
 Luminaire LPW: 69



**CANDLEPOWER
DISTRIBUTION
(Candelas)**

Degrees Vertical	0°
0	7760
5	7134
15	3006
25	562
35	45
45	5
55	3
65	2
75	1
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'	127	116	108
5.0'	81	74	69
6.0'	57	52	48
7.0'	46	42	39
8.0'	36	33	31
9.0'	28	25	24
10.0'	20	19	17

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	1732	96.0
0-40°	1790	99.3
0-60°	1800	99.9
0-90°	1803	100.0

INITIAL FOOTCANDLES
 (One Unit, 26.2W, 26.5° Beam)

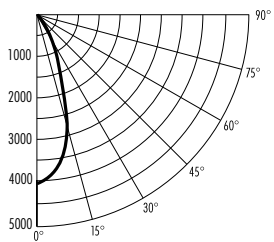
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
6	215.6	2.8'
8	121.3	3.8'
10	77.6	4.7'
12	53.6	5.7'

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	1127
55	694
65	524
75	456
85	339

**FLOOD
PHOTOMETRIC REPORT**

Test Report #: PT05150204
 Catalog No: IC/TC420LSQ-830-F-1
 with 432SQHZ trim
 Luminaire Spacing Criterion: 0.66
 Luminaire LPW: 70



**CANDLEPOWER
DISTRIBUTION
(Candelas)**

Degrees Vertical	0°
0	4083
5	3949
15	2864
25	1176
35	146
45	6
55	2
65	2
75	1
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'	128	114	104
5.0'	82	73	67
6.0'	57	51	46
7.0'	46	41	37
8.0'	36	33	30
9.0'	28	25	23
10.0'	20	18	17

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	1680	91.8
0-40°	1810	99.0
0-60°	1827	99.9
0-90°	1829	100.0

INITIAL FOOTCANDLES
 (One Unit, 26.2W, 39.2° Beam)

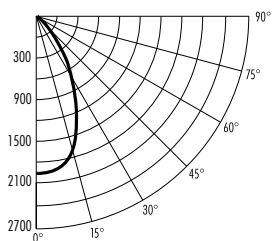
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
6	113.4	4.3'
8	63.8	5.7'
10	40.8	7.1'
12	28.4	8.5'

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	1168
55	566
65	419
75	342
85	339

**WIDE FLOOD
PHOTOMETRIC REPORT**

Test Report #: PT05150404
 Catalog No: IC/TC420LSQ-830-W-1
 with 432SQHZ trim
 Luminaire Spacing Criterion: 0.86
 Luminaire LPW: 60



**CANDLEPOWER
DISTRIBUTION
(Candelas)**

Degrees Vertical	0°
0	1957
5	1959
15	1788
25	1093
35	427
45	14
55	7
65	4
75	2
85	1
90	0

AVERAGE INITIAL FOOTCANDLES
 Multiple Units (Square Array, 60"x60" room)
 Ceiling 80% Wall 50% Floor 20%

Spacing	RCR1	RCR3	RCR5
4.0'	109	95	84
5.0'	69	61	54
6.0'	48	42	37
7.0'	39	34	30
8.0'	31	27	24
9.0'	24	21	18
10.0'	17	15	13

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30°	1179	75.3
0-40°	1474	94.2
0-60°	1558	99.6
0-90°	1565	100.0

INITIAL FOOTCANDLES
 (One Unit, 26.2W, 53.1° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
6	54.4	6.0'
8	30.6	8.0'
10	19.6	10.0'
12	13.6	12.0'

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45	2921
55	1877
65	1466
75	1197
85	1016

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, 80CRI.

