

Catalog # :

Project :

Prepared By :

Date :



LCD4 4" LED Commercial Downlight



4 inch LED new construction downlight delivers superior performance and energy efficiency. Designed to use anodized aluminum reflectors delivering even illumination and low glare. The high performance luminaire offers 1000 up to 2000 lumens with color temperatures of 2700K, 3000K, 3500K, 4000K at 80 CRI. Standard driver offers universal (120-277V) and 0-10V dimming down to 1%. The LCD series is ideal for low to medium ceiling heights for retail, hospitality and commercial applications.



Features & Specifications

Optical System

- LED source provides superior lumen output with maximum visual comfort.
- Tailored spot, narrow flood, flood and wide flood beam optics designed for glare free illumination.
- Choice of flanged or flangeless spun reflector utilizing heavy gauge highly reflective diffuse anodized aluminum to deliver low glare, even illumination of the space.
- Reflectors are retained with three retention clips holding the flange tight to the finished ceiling surface.
- Minimum CRI of 80.

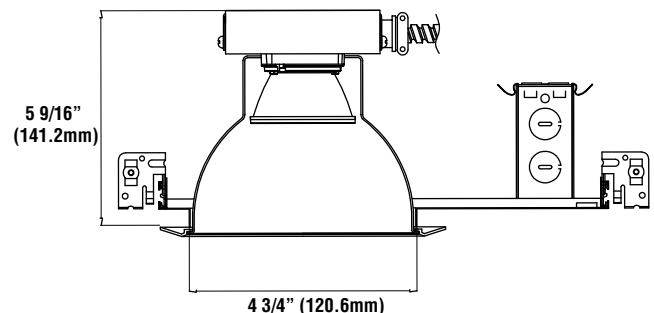
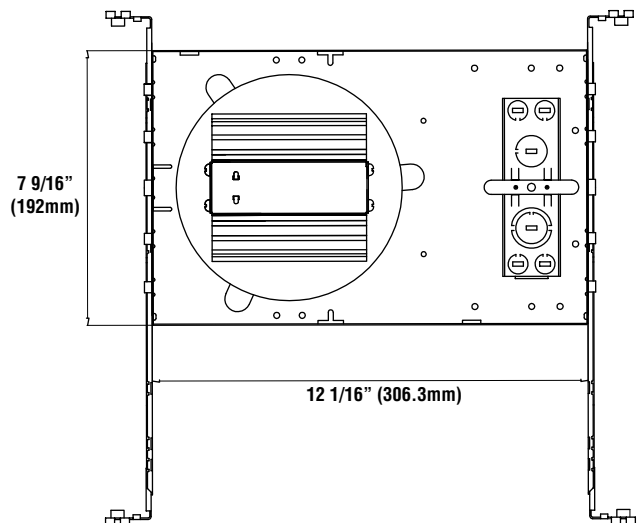
Electrical

- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (1% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz.
- L70 Calculated Life: > 50k Hours projected @ 25°C per IESNA TM-21-11.
- Total harmonic distortion: <20%
- Power factor: >.90
- Input power stays constant over life.
- Compatible with Triac (forward-phase or leading-edge), ELV (reverse-phase or trailing edge) dimming only at 120 Vac.
- Driver can be accessed from below plenum for servicing.
- High-efficacy LEDs with integrated circuit board mount directly to an extruded aluminum heatsink to maximize heat dissipation and promote long life.
- Remote Emergency Battery (120-277V) field installed is available to meet critical life safety lighting requirements. The 90-minute battery provides 7.8watts constant power to the LED system, ensuring code compliance. To calculate light output during emergency mode(EM battery 7.8 watts x LPW of fixture being powered - see spec sheet). Detailed wiring diagram and installation instructions located on website.



Dimensions

Accommodates 1/2" ceiling thickness





Features & Specifications (cont.)

New Construction Housing/Plaster Frame

- Designed for use in non-insulated ceiling where insulation must be kept a minimum of 3" from the fixture.
- Junction box listed for (8) #12 AWG (four in, four out) 90°C conductors and thru branch wiring.
- Junction box contains (5) 1/2" knockouts with trade pry-out slots and (4) Romex cable clamp knockouts.
- Frame accomodates up to 1/2" ceiling thickness. Standard 24" nailer bars ship with each unit and field installed.

Installation

- 24" nailer bars provide stability and support for installation on joists, T-Grid and suspended ceilings.
- Housings can be positioned at any point within the 24" joist span.
- Score lines allow adjustments for 12" joists without tools.

Warranty

- LSI LED Fixtures carry a 5-year warranty.
- 1 Year warranty on optional Emergency Battery. Test regularly in accordance with local codes.

Listing

- cETLus Listed to UL 1598 and UL 8750 standards for 25°C Ambient applications
- RoHS Compliant.
- EMI/RFI compliant with FCC 47CFR Part 15 Class B Consumer limits and Class A Commercial & Industrial.
- Damp location rated
- Title 24 Compliant.

Performance

Electrical Data (Amps)*				
Lumen Package	120V	208V	240V	277V
14L	0.12	0.07	0.06	0.05
24L	0.18	0.11	0.09	0.08

*Electrical Data at 25C (77F)/ Actual Wattage may differ +/-10%

DELIVERED LUMENS*										
Lumen Pkg.	Distribution	2700K CCT		3000K CCT		3500K CCT		4000K CCT		Wattage
		Delivered Lumens	Efficacy	Delivered Lumens	Efficacy	Delivered Lumens	Efficacy	Delivered Lumens	Efficacy	
14L	SP	1157	82.6	1157	82.6	1414	101.0	1414	101.0	14
	NF	1147	81.9	1146	81.9	1401	100.1	1401	100.1	14
	FL	1134	81.0	1134	81.0	1386	99.0	1386	99.0	14
	WF	1067	76.2	1067	76.2	1304	93.1	1304	93.1	14
24L	SP	2008	91.3	2008	91.3	2455	111.6	2455	111.6	22
	NF	1989	90.4	1989	90.4	2432	110.5	2432	110.5	22
	FL	1969	89.5	1969	89.5	2407	109.4	2407	109.4	22
	WF	1852	84.2	1852	84.2	2264	102.9	2264	102.9	22

*LED Chips are frequently updated therefore values may change. Data is based on Haze Reflector.



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Luminaire Ordering Guide

TYPICAL ORDER EXAMPLE: **LCD4 LED 24L UNV DIM1 35 NF TR4R HAZ**

Family/ Size	LED Gen	Lumen Package	Voltage	Driver	Color Temperature	CRI	Beam Optics ⁶
LCD4 - 4" New Construction ⁴	LED	14L - 1400 24L - 2400	UNV - 120-277V	DIM1 - Dims to 1% (0-10V dimming)	30 - 3000K 35 - 3500K 40 - 4000K	Blank - 80 CRI	SP - Spot NF - Narrow Flood FL - Flood WF - Wide Flood

	Reflector	Finish	
Self-Flange	TR4R - Open Reflector	SF HAZ - Haze semi- diffused	
		SF SPC - Specular clear	
	TR4RWW - Wall Wash ²	SF HAZ - Haze semi-diffused	
Flangeless (ship standard w/ white plastic trim ring)	TR4R - Open Reflector	HAZ - Haze semi-diffused, white trim ring	
		SPC - Specular clear, white trim ring	
	TR4RFL - Frosted Floating Lens ³	HAZ - Haze semi-diffused Reflector w/ Frosted Floating Lens, w/ integrated white metal trim ring (optional trim ring not compatible)	
		SPC - Specular Clear Reflector w/ Frosted Floating Lens, w/ integrated white metal trim ring (optional ring not compatible)	
	TR4RWW - Wall Wash ²	HAZ - Haze semi-diffused wall wash reflector, white trim ring	
	TR4B - Baffle	HAZ - Haze semi-diffused reflector	WH - White baffle and white trim ring
			BL - Black Baffle and white trim ring
	TR4BL - Baffle w/ Regressed Lens ¹	HAZ - Hazed semi-diffused	WH - White baffle and white trim ring
			SPC - Specular clear
	TR4RL - Regressed Lens ¹	HAZ - Haze semi-diffused reflector w/ specular clear regressed lens and white trim ring	WH - White baffle and white trim ring
SPC - Specular clear reflector w/ specular clear regressed lens and white trim ring			BL - Black baffle and white trim ring

Accessory Ordering Information (Accessories are field installed)

Description	Order Number
WH - White metal trim ring (only compatible w/flangeless trims)	616105
EM - Emergency Battery	658633

NOTES:

1. Regressed lens trims are wet location listed. All other trims are rated for damp location.
2. TR4RWW wall wash reflector comes with 40° integrated optic; additional beam optics not compatible
3. TR4RFL frosted floating lens comes with integrated white metal trim; accessory white metal trim ring not required)
4. Housing can ship ahead of the light engine and reflector
5. 90 CRI requires 55 day leadtime & 100 MOQ; Consult Factory
6. Refer to IES Files for Beam Spread.



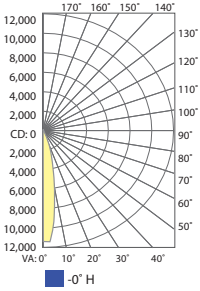
LCD4 4" LED Commercial Downlight

Photometry

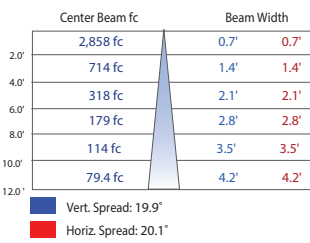
LCD4-LED-24L-35-SP-TR4R-SF-HAZ

Lumens: 2,455
Watts: 22.2
Efficacy: 111

Candela Power Distribution



Cone of Light Illuminance at a Distance



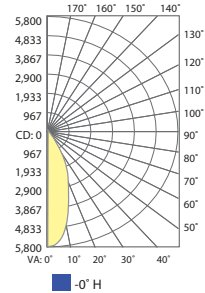
ZONE	LUMENS	% Fixture
0-10	803	32.7%
10-20	892	36.3%
20-30	569	23.2%
30-40	129	5.2%
40-50	43	1.7%
50-60	14	0.6%
60-70	3	0.1%
70-80	1	0.1%
80-90	0	0.0%
90-100	0	0.0%
0-180	2,455	100.0%

Degree Vertical	Candela
0	11,431
5	9,951
10	5,678
15	3,013
20	1,925
25	1,322
30	523
35	172
40	84
45	54
50	33
55	14
60	5
65	3
70	2
75	1
80	0
85	0
90	0

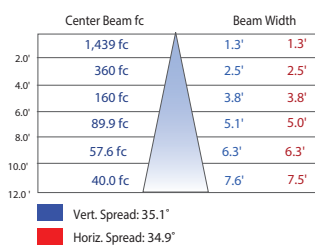
LCD4-LED-24L-35-NF-TR4R-SF-HAZ

Lumens: 2,432
Watts: 22.2
Efficacy: 110

Candela Power Distribution



Cone of Light Illuminance at a Distance



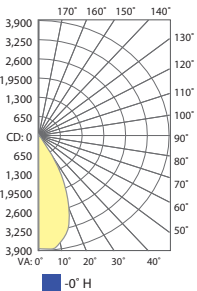
ZONE	LUMENS	% Fixture
0-10	497	20.4%
10-20	949	39.0%
20-30	710	29.2%
30-40	196	8.0%
40-50	60	2.5%
50-60	16	0.6%
60-70	3	0.1%
70-80	1	0.0%
80-90	0	0.0%
90-100	0	0.0%
0-180	2,432	100.0%

Degree Vertical	Candela
0	5,756
5	5,523
10	4,611
15	3,473
20	2,446
25	1,609
30	685
35	275
40	136
45	76
50	39
55	15
60	5
65	3
70	2
75	1
80	0
85	0
90	0

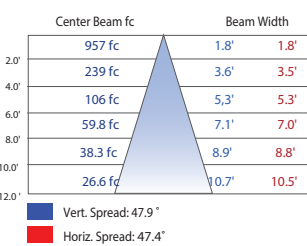
LCD4-LED-24L-35-FL-TR4R-SF-HAZ

Lumens: 2,407
Watts: 22.2
Efficacy: 108

Candela Power Distribution



Cone of Light Illuminance at a Distance



ZONE	LUMENS	% Fixture
0-10	359	14.9%
10-20	884	36.7%
20-30	792	32.9%
30-40	265	11.0%
40-50	85	3.5%
50-60	18	0.7%
60-70	4	0.1%
70-80	1	0.1%
80-90	0	0.0%
90-100	0	0.0%
0-180	2,407	100.0%

Degree Vertical	Candela
0	3,826
5	3,844
10	3,654
15	3,182
20	2,513
25	1,770
30	852
35	391
40	206
45	104
50	45
55	17
60	6
65	3
70	2
75	1
80	1
85	0
90	0

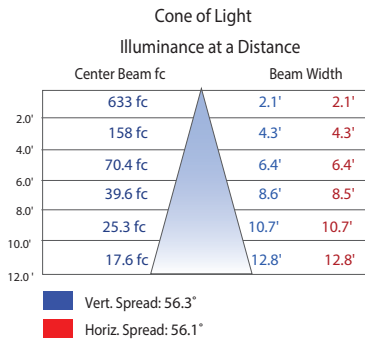
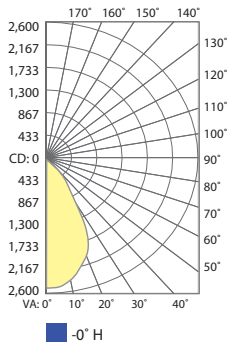


Photometry (cont.)

LCD4-LED-24L-35-WF-TR4R-SF-HAZ

Lumens: 2,264
Watts: 22.2
Efficacy: 102

Candela Power Distribution



ZONE	LUMENS	% Fixture
0-10	237	10.5%
10-20	617	27.2%
20-30	722	31.9%
30-40	405	17.9%
40-50	219	9.7%
50-60	53	2.3%
60-70	9	0.4%
70-80	2	0.1%
80-90	0	0.0%
90-100	0	0.0%
0-180	2,264	100.0%

Candela Table	
Degree Vertical	Candela
0	3,826
5	3,844
10	3,654
15	3,182
20	2,513
25	1,770
30	852
35	391
40	206
45	104
50	45
55	17
60	6
65	3
70	2
75	1
80	1
85	0
90	0

4" Recessed Downlight Reflectors



TR4R - Open Reflector
Self-Flange or Flangeless
HAZ - Haze semi-diffused
SPC - Specular clear



TR4RFL - Frosted floating lens
Flangeless
HAZ - Haze semi-diffused
SPC - Specular clear
Integrated white metal trim ring



TR4BL - Baffle w/ regressed lens
Flangeless
HAZ - Haze semi-diffused
SPC - Specular clear
Choice of white or black baffle
Wet Location listed



TR4RWW - Wall wash w/ Kick reflector
Self-Flange or Flangeless
HAZ - Haze semi-diffused



TR4B - Baffle
Flangeless
HAZ - Haze semi-diffused reflector
Choice of white or black baffle



TR4RL - Regressed lens w/specular clear reflector
Flangeless
HAZ - Haze semi-diffused
SPC - Specular clear
Wet Location Listed