

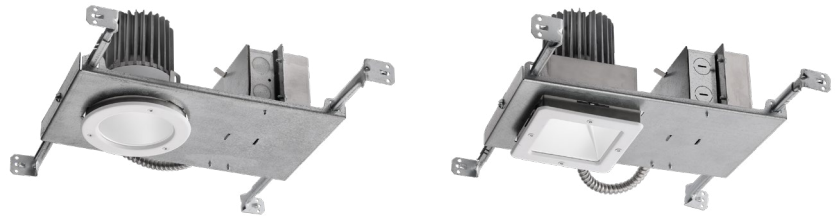
# MILLENIUM DOWNLIGHT

## Luminaires for High Abuse Applications

### HADL4 SERIES

#### PRODUCT FEATURES:

- » 4" sealed, recessed downlight with a flush trim; round or square aperture
- » 850 - 2,400 lm with multiple distribution, lens and color options
- » 1% Dimming via 0-10V or DALI-2 control
- » Peace of Mind Guarantee® against breakage



Round

Square

#### SPECIFICATIONS

**HEAT SINK:** Die-cast aluminum with external radial fins for natural convection.

**ROUGH-IN FRAME:** 18-gauge die-formed, corrosion-resistant steel. Vertically adjustable collar accommodates ceiling thicknesses up to 1.5", adjustable post-installation. Adjustable mounting bars for installation with wood and steel frame joists and T-grid ceiling systems spaced up to 24" on center. Quick-access junction box accessible post-installation from above and below ceiling. Includes (5) 1/2" knock-outs to allow straight conduit runs.

**TRIM/HOUSING SECTION:** IP-rated housing section incorporates the heat sink, LED module, optics and lower trim. Flush lens trim secured with three (Round) or four (Square) Torx® tamper-resistant, captive fasteners. Closed-cell gasketing at ceiling flange. See Trim Ordering Information for available options.

**OPTICAL:** Clear tempered-glass upper lens. 1/8" clear polycarbonate flush lens at ceiling trim with continuous seal to trim ring. Available with various reflector finishes. See Ordering Information for available options.

**ELECTRICAL:** LED source available in multiple CCT and CRI combinations with a maximum 3-step MacAdam variation allowance. See Trim Ordering Information for available options. 120-277VAC or 347VAC, 50/60Hz electrical input with serviceable constant current driver (<20% THD, >0.90 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range and dim-to-dark capabilities; 0.2mA maximum source current. Optional eldoLED ECOdrive DALI-2/LEDcode2 driver with 1-100% range.

**PHOTOMETRICS:** Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. For photometric information, go to [www.kenall.com](http://www.kenall.com).

**WARRANTY:** Limited five (5) year LED warranty. Peace of Mind Guarantee against breakage.

**LISTINGS:** Luminaire is certified to UL standards by Intertek Testing Laboratory for non-IC and Wet Location installations. IP65 rating per IEC60598. Optional CCEA compliance.



#### ORDERING INFORMATION (EX: HADL4S-FF-5FW-11L-40K8-CS-G-RIG4S-277-DIM1-LEL)

TRIM							ROUGH-IN			
Model	Trim Style	Trim Finish	Lamp Power	Lamp Color	Reflector Finish	Flush Lens Type	Rough-In	Input Voltage	Driver Type	Options
	<b>FF</b>					<b>G</b>				

#### Model

**HADL4** 4" High Abuse - Round  
**HADL4S** 4" High Abuse - Square

#### Trim Style

**FF** Flush Lens (With Fasteners)

#### Trim Finish

**2FW** Cold-Rolled Steel in Flat White  
**5BR** Type 304 Stainless Steel with 4B Brushed Finish  
**5FW** Type 304 Stainless Steel in Flat White  
**XBR** Type 316 Stainless Steel with 4B Brushed Finish  
**XFW** Type 316 Stainless Steel in Flat White

#### Lamp Power

**11L** 11 Watt LED  
**23L\*** 23 Watt LED

#### Lamp Color

**30K8** 3000K / 80 CRI min.  
**30K9** 3000K / 90 CRI min.  
**35K8** 3500K / 80 CRI min.  
**35K9** 3500K / 90 CRI min.  
**40K8** 4000K / 80 CRI min.  
**40K9** 4000K / 90 CRI min.  
**50K8** 5000K / 80 CRI min.

#### Reflector Finish

**FW** Flat White  
**CD** Clear Diffuse  
**CS** Clear Specular (square only)  
**CSS** Clear Semi-Specular (round only)

#### Flush Lens Type

**G** 1/8" Clear Polycarbonate

#### Rough-In

**RIG4** 4" High Abuse Rough-In - Round  
**RIG4S** 4" High Abuse Rough-In - Square

#### Input Voltage

**120** 120VAC, 50/60Hz  
**277** 277VAC, 50/60Hz  
**347†** 347VAC, 60Hz

#### Driver Type

**DIM1** 0-10V Dimming to 1% with Dim-to-Dark  
**DALI** DALI-2/LEDcode2 Dimming to 1% without Dim-to-Dark

#### Options

**LEL** Emergency Battery Backup with Remote Test Switch (0°C min ambient)  
**FS** Fuse & Holder  
**CCEA** CCEA Approved

† N/A with DALI Driver Type. N/A with LEL and CCEA option

\* Must be installed with a minimum 24" on-center spacing, 12" from wall, and have 6" clearance above the Trim/Housing



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### PERFORMANCE

Optic				Lamp Power	Initial Delivered Lumens, By Lamp Color							Efficacy (lm/W)	Input Power (W)	TM-21 Reported L90 (hrs)	TM-21 Reported L70 (hrs)
Aperture	Trim Style	Reflector Finish	Lens Type		30K8	30K9	35K8	35K9	40K8	40K9	50K8				
Round	FF	CD	G	11L	1,201	975	1,229	1,011	1,236	1,031	1,251	73 - 93	13	>55,000	>55,000
				23L	2,333	1,894	2,387	1,962	2,401	2,003	2,429	69 - 89	27	52,000	>55,000
		CSS		11L	1,217	988	1,246	1,024	1,253	1,045	1,268	74 - 95	13	>55,000	>55,000
				23L	2,364	1,919	2,419	1,989	2,433	2,030	2,462	70 - 90	27	52,000	>55,000
		FW		11L	1,140	926	1,167	959	1,174	979	1,187	69 - 89	13	>55,000	>55,000
				23L	2,214	1,798	2,266	1,863	2,279	1,901	2,306	66 - 85	27	52,000	>55,000
Square	FF	CD	G	11L	1,026	833	1,050	863	1,056	881	1,069	62 - 80	13	>55,000	>55,000
				23L	1,993	1,618	2,040	1,677	2,051	1,711	2,075	59 - 76	27	52,000	>55,000
		CS		11L	1,201	975	1,229	1,010	1,236	1,031	1,250	73 - 93	13	>55,000	>55,000
				23L	2,332	1,893	2,386	1,962	2,400	2,002	2,428	69 - 89	27	52,000	>55,000
		FW		11L	1,055	856	1,079	887	1,086	906	1,098	64 - 82	13	>55,000	>55,000
				23L	2,048	1,663	2,096	1,723	2,108	1,759	2,133	61 - 78	27	52,000	>55,000

Subject to change without notice. Visit [www.kenall.com](http://www.kenall.com) for ies files and additional information.

Round Aperture Candela Curve	HADL4-FF-rrrr-23L-40K8-CSS-G			HADL4S-FF-rrrr-23L-40K8-CS-G		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam foot-candles	Beam diameter (ft)	
	147.5	2.5	5'	189.2	3.5	
	102.4	3.0	6'	131.4	4.2	
	75.2	3.5	7'	96.5	4.9	
	57.6	4.0	8'	73.9	5.6	
	45.5	4.5	9'	58.4	6.3	
	36.9	5.0	10'	47.3	7.0	
Spacing Criteria: 0.72	foot-candle multipliers for 30K8(.96), 30K9(.79), 35K8(.99), 35K9(.82), 40K9(.83), 50K8(1.01)					Spacing Criteria: 0.64
Beam Angle: 28	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 39

Round Aperture Candela Curve	HADL4-FF-rrrr-23L-40K8-CD-G			HADL4S-FF-rrrr-23L-40K8-CD-G		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)	Distance to illuminated plane (ft)	Initial center beam foot-candles	Beam diameter (ft)	
	134.3	5.2	5'	124.3	4.6	
	93.2	6.3	6'	86.3	5.5	
	68.5	7.3	7'	63.4	6.4	
	52.5	8.4	8'	48.5	7.3	
	41.4	9.4	9'	38.4	8.2	
	33.6	10.5	10'	31.1	9.1	
Spacing Criteria: 0.74	foot-candle multipliers for 30K8(.96), 30K9(.79), 35K8(.99), 35K9(.82), 40K9(.83), 50K8(1.01)					Spacing Criteria: 0.79
Beam Angle: 55	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 49



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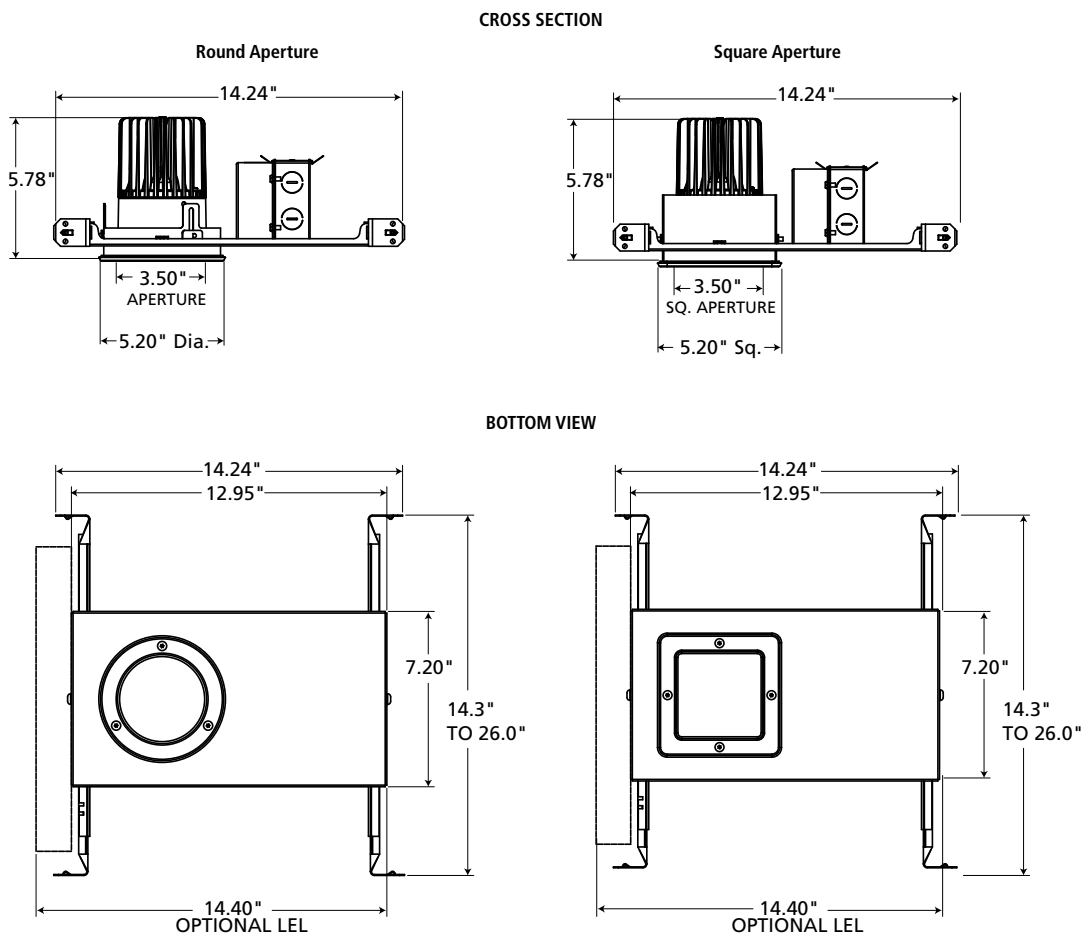
Luminaires for High Abuse Applications

## HADL4 SERIES

### PERFORMANCE

Round Aperture Candela Curve	HADL4-FF-rrrr-23L-40K8-FW-G		Distance to illuminated plane (ft)	HADL4S-FF-rrrr-23L-40K8-FW-G		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	97.2	5.4	5'	96.4	4.8	
	67.5	6.5	6'	66.9	5.8	
	49.6	7.6	7'	49.2	6.8	
	38.0	8.7	8'	37.7	7.7	
	30.0	9.7	9'	29.8	8.7	
	24.3	10.8	10'	24.1	9.7	
Spacing Criteria: 0.88	foot-candle multipliers for 30K8(.96), 30K9(.79), 35K8(.99), 35K9(.82), 40K9(.83), 50K8(1.01)					Spacing Criteria: 0.85
Beam Angle: 57	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 52

### DIMENSIONAL DATA



RECOMMENDED CEILING CUTOUT: 4.875" DIA.

RECOMMENDED CEILING CUTOUT: 4.875" X 4.875"



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