

MEDMASTER NARROW SPECTRUM

Luminaires for Behavioral Health Applications

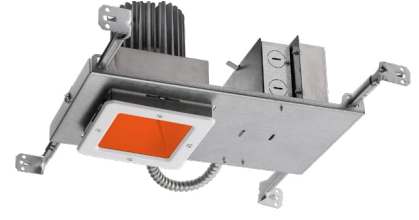
BHDL4 SERIES

PRODUCT FEATURES:

- » 4" sealed, recessed downlight with a flush trim; round or square aperture
- » Phosphor-converted 590nm Amber LED source provides higher lumen output and lifetime than native Amber sources
- » Suitable for circadian and other spectrally sensitive healthcare applications
- » 1% Dimming via 0-10V or DALI-2 control
- » Peace of Mind Guarantee® against breakage



Round - 470nm Blue



Square - 590nm Phosphor Amber

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: Diffused 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: Phosphor-converted (PC) LED source provides Amber light with a 590nm nominal peak wavelength. Phosphor-converted InGaN-based source provides a higher output and efficacy as well as longer lifetime compared to native amber (AlInGaP-based) source for applications where a broader spectrum is acceptable. Native Blue LED option with 470nm nominal peak wavelength. 120-277VAC, 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; 0.2mA max. 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.

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. NSF2 Splash/Non-Food Zone. Optional CCEA compliance.



ORDERING INFORMATION (EX: BHDL4-FF-5FW-12NA-FW-G-RIG4-277-DALI)

TRIM						ROUGH-IN			
Model	Trim Style	Trim Finish	Lamp Power/Color	Reflector Finish	Flush Lens Type	Rough-In	Input Voltage	Driver Type	Options
						G			
Model				Reflector Finish					
BHDL4	4" Medical - Round			FW	Flat White				
BHDL4S	4" Medical - Square			CD	Clear Diffuse				
				CS	Clear Specular (square only)				
				CSS	Clear Semi-Specular (round only)				
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								
Lamp Power / Color									
12PA	12 Watt Phosphor-Converted Amber LED								
18BL	18 Watt 470nm Native Blue LED								
						Rough-In			
						RIG4	4" Behavioral Rough-In - Round		
						RIG4S	4" Behavioral 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		
						FS	Fuse & Holder		
						CCEA	CCEA Approved		

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



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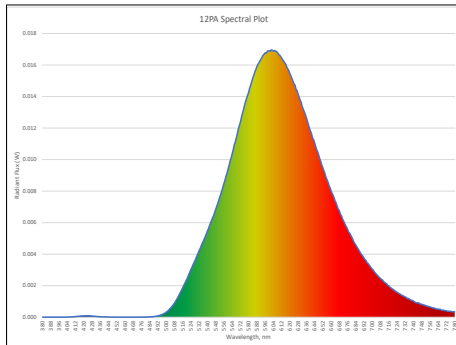
BHDL4 SERIES

PERFORMANCE

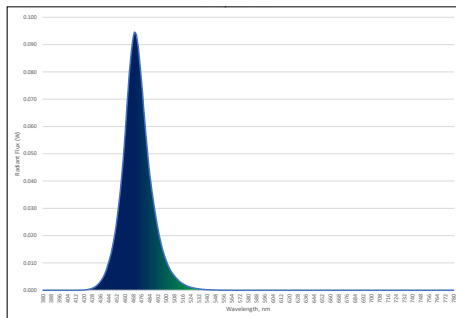
Optic				Lamp Code	Lamp Color	Initial Delivered Lumens	Input Power (W)	Estd. L70 LED Life (hrs)
Aperture	Trim Style	Reflector Finish	Lens Type					
Round	FF	CD	G	12PA	590nm PC Amber	794	14	72,000
				18BL	470nm Blue	210	21	60,000
		CSS		12PA	590nm PC Amber	805	14	72,000
				18BL	470nm Blue	213	21	60,000
		FW		12PA	590nm PC Amber	754	14	72,000
				18BL	470nm Blue	199	21	60,000
Square	FF	CD	G	12PA	590nm PC Amber	678	14	72,000
				18BL	470nm Blue	179	21	60,000
		CS		12PA	590nm PC Amber	794	14	72,000
				18BL	470nm Blue	210	21	60,000
		FW		12PA	590nm PC Amber	697	14	72,000
				18BL	470nm Blue	184	21	60,000

Subject to change without notice. Visit www.kenall.com for ies files and additional information.

SPECTROPHOTOMETRIC PERFORMANCE



12PA	
Purity	0.993
UV (<400nm)	0.003%
Radiant Flux (≤560nm)	13.400%
Bandwidth	101.6 nm
Peak Wavelength	590 nm



18BL	
Purity	0.9583
Bandwidth	24.4 nm
Peak Wavelength	470 nm



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PERFORMANCE

Round Aperture Candela Curve	BHDL4-FF-ssss-12PA-CSS-G		Distance to illuminated plane (ft)	BHDL4S-FF-ssss-12PA-CS-G		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	32.3	4.6	5'	58.6	4.0	
	22.5	5.5	6'	40.7	4.8	
	16.5	6.4	7'	29.9	5.6	
	12.6	7.3	8'	22.9	6.4	
	10.0	8.2	9'	18.1	7.2	
	8.1	9.1	10'	14.7	8.0	
Spacing Criteria: 0.93	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.68
Beam Angle: 49						Beam Angle: 44

Round Aperture Candela Curve	BHDL4-FF-ssss-12PA-CD-G		Distance to illuminated plane (ft)	BHDL4S-FF-ssss-12PA-CD-G		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	32.9	4.6	5'	33.7	5.2	
	22.8	5.5	6'	23.4	6.3	
	16.8	6.4	7'	17.2	7.3	
	12.8	7.3	8'	13.2	8.4	
	10.1	8.2	9'	10.4	9.4	
	8.2	9.1	10'	8.4	10.4	
Spacing Criteria: 0.92	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.84
Beam Angle: 49						Beam Angle: 55

Round Aperture Candela Curve	BHDL4-FF-ssss-12PA-FW-G		Distance to illuminated plane (ft)	BHDL4S-FF-ssss-12PA-FW-G		Square Aperture Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	25.3	5.7	5'	27.7	5.7	
	17.5	6.8	6'	19.3	6.9	
	12.9	7.9	7'	14.2	8.0	
	10.0	9.1	8'	10.8	9.2	
	7.8	10.2	9'	8.6	10.3	
	6.3	11.3	10'	6.9	11.5	
Spacing Criteria: 0.88	Beam diameter is where foot-candles drop to 50% of maximum					Spacing Criteria: 0.92
Beam Angle: 59						Beam Angle: 60



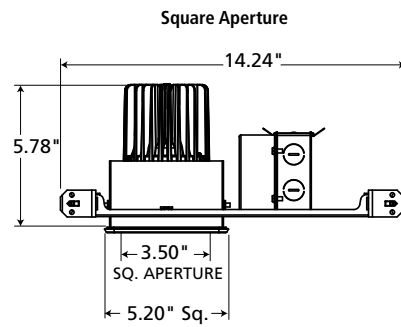
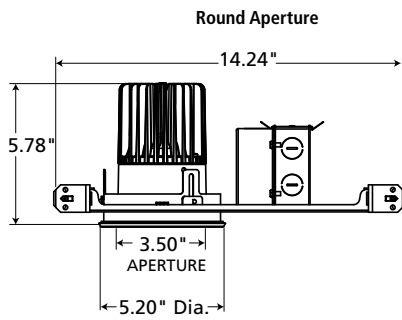
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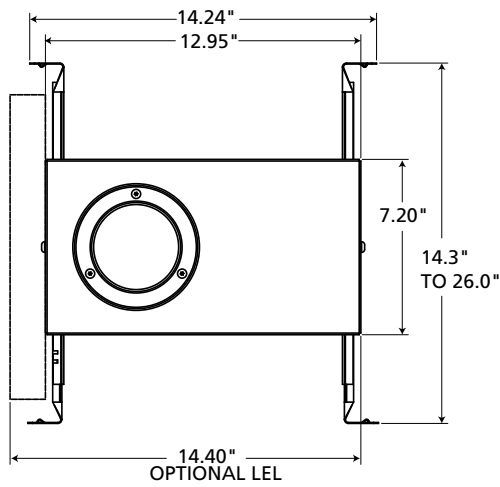
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DIMENSIONAL DATA

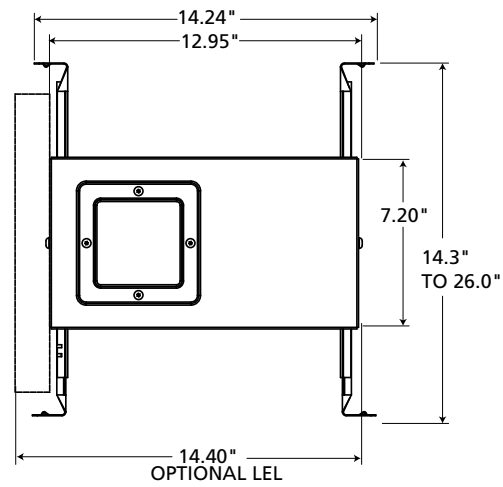
CROSS SECTION



BOTTOM VIEW



RECOMMENDED CEILING CUTOUT: 4.875" DIA.



RECOMMENDED CEILING CUTOUT: 4.875" X 4.875"



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