



Cardinal[®] High Bay Fixtures

RedBird LED Cardinal[®] High Bay fixtures employ the same high efficacy LEDs and Drivers developed for our STRIPIT KIT[®] series of DLC listed products. **Custom Aluminum Extrusions** are used throughout the product forming an incredibly tough, yet lightweight chassis while also providing unmatched thermal management of the LEDs and Drivers, ensuring a 100,000 hour service life with virtually no lumen depreciation or chromatic shift.

Each 45" light bar is a complete Light Engine comprised of the extrusion with the LED PCB permanently embedded in it, a 44 watt Constant Current driver with 0-10V Dimming compatibility and custom MIRO-SILVER reflectors for the Narrow Beam models.

The RedBird High Bays are available in 4100K and 5000K CCTs. Standard models are offered as a 2-Bar, 3-Bar, 4-Bar and 6-Bar configurations. RedBird LED High Bays are offered in two Beam Distribution options:

Wide Beam Fixtures – provide a 120° x 120° Beam Angle, providing broad uniform coverage in open areas.

Focused / Narrow Beam Fixtures – provide a 120° x 45° Beam Angle. The beam forming is accomplished with computer designed linear reflectors built with Anolux-MIRO-SILVER providing 98% reflective properties across the entire visible spectrum to deliver the desired high efficiency beam forming with >99% preservation of the chromatic quality of the LEDs – a perfect solution for 30-40 foot high pallet racks with 12 foot aisles

At **155 lm/watt efficacy**, the RedBird LED High Bays can deliver more than 40,000 lumens, while consuming less than 264W.

Options for the Cardinal High Bay fixtures include occupancy and/or ambient light sensors. These interface to the standard 0-10V dimmable drivers enable complete control of the output levels and daylight harvesting capabilities.

The RedBird Drivers are Multi-volt (110-277 VAC and 347-480 VAC) compatible. The standard RedBird push for excellence is also embedded in the Driver design yielding PF=0.99, THD < 6% and a total conversion efficiency of 92%. The MTBF rating on the Drivers is > 140,000 hours. In case of a power loss, we also offer a Battery Backed Emergency Driver option.

The HB series **LEDs are under-driven by 50%** with drive levels of only 44 watts for each 45" light bar. These low drive levels combined with the highly efficient thermal management provided by the custom AL extrusions result in ISTMT test results where the steady state operating temperature is a mere 34.7°C, less than a 10°C rise above the ambient air temperature. As a result, RedBird High Bays are one of the very few LED high Bays that can be operated safely in ambient temperatures as high as 135°F without fear of premature failure, lumen degradation or color shift.

For a high bay product, which is by definition frequently mounted 30-40' high in a non-climate controlled warehouse where ambient temperatures can exceed 120°F, having this extra margin of temperature headroom is a major advantage of the RedBird LED High Bay solution.

Specifications and Features

				2-Bar	3-Bar	4-Bar
		L	H	W		
Dimensions	Narrow Beam Fixtures:	46.625"	3.63"	8.0"	11.75"	15.50"
	Wide Beam Fixtures:	46.625"	1.54"	8.0"	11.75"	15.50"
Available Kelvin Colors	4100K, 5000K					
Efficacy	155 lumens per watt (nominal)					
Beam Patterns	120° x 120° Wide Beam / 120° x 45° Narrow Beam					
LED Drivers	One 44w driver per Light Bar, 0-10V Dimmable. Battery backup optional					
Power Connections	6 foot, 3 conductor sheathed power cord, 3-prong 120V plug standard					
PCB Construction	Aluminum core, molecularly bonded to High Bay extrusions					
LED Elements	288 SMD LEDs per 4' Light Bar					
Mounting Method	Cable Hung, Surface Mount					
Sensors	Daylighting, Photocell and Occupancy Sensors available upon request					
CRI	>82					
R9	>5					
Duv	<0.0019					
Voltage	120-277VAC standard; 347/480VAC available					
Power Factor / THD	PF >0.99, THD < 6%					
Operating Temperature	-40°F to 135°F					
Certifications	UL, cUL, RU, 1993, 1598, 1598(B), 1598©, 8750, FCC, CE, RoHS					
DesignLights Consortium	Refer to DLC QPL for selected models					
Warranty	10 Year Full Replacement Warranty - no pro-rating.					
Rated Lifetime	> 100,000 Hrs (TM21 L70 > 240,000 hrs)					

Ordering Information

HB SERIES	TOTAL WATTAGE	CCT	BEAM PATTERN
HB	88W 88w dimmable	50K 5000'K	WB wide beam
HB	176W 176w dimmable	41K 4100'K	NB narrow beam

