

## Agriculture Lighting

High/Low Bay & Site Completion Guide





# Introduction



## Agricultural LED Lighting Solutions

NICOR delivers industry leading performance and reliability in high bays for agriculture lighting. This complete family of products includes state of the art high bays that are enhanced by control systems that meet and exceed local and national codes. Industrial and commercial properties include an extensive variety of spaces including farming with storage, office space, restrooms, parking lots and paths of egress. NICOR has the solutions for all your needs.

# Total Cost of Ownership

## On-Going Benefits

- ↑ Increase profits by reducing picking and scanning errors
- ↑ Increase productivity with fewer maintenance shutdowns
- ↑ Support a safe and productive work environment

## Calculating Cost

Total cost of ownership is a financial estimate that helps owners and managers determine the direct and indirect costs of a lighting system. Going beyond energy consumptions and wattage comparisons, calculations should include all the less apparent costs related to the installation and should consider the full cost of an asset over its useful life. This includes ongoing maintenance, affects on cooling systems, sensors and code requirements, and lumen maintenance calculations. When the full cost is examined it makes it easy to see how high-efficient LEDs reduce energy costs and increase the lifetime of the luminaires.

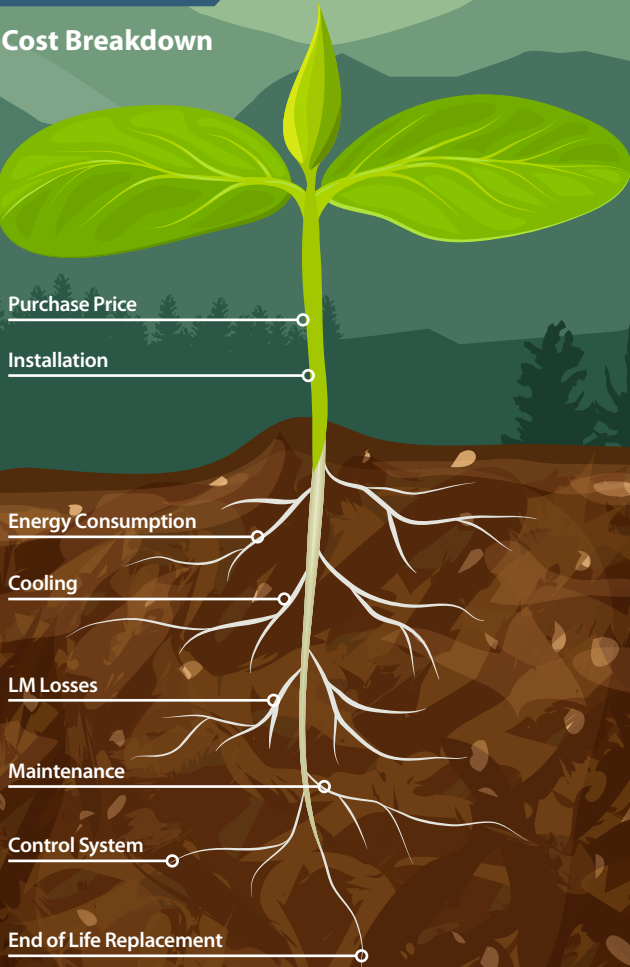
## Cost of Lighting

Initial Cost  
**30%**

## The Hidden Costs

Ongoing Cost  
**70%**

## Cost Breakdown



## Save 24 Hours a Day

Hard work does not stop because the sun sets. Agricultural businesses are open during the day and more frequently into the night, so saving energy plays a key role in selecting a lighting package. Combining high efficiency LED luminaires with control systems that include daylight harvesting and fully dimmable solutions provides up to 65% energy savings compared to legacy technology. More light with fewer fixtures; use up to 75% less energy – saving money and the environment.





# NICOR<sup>®</sup>

## Agriculture Overview



### Silo Lighting

Our hazardous line of products are great for silos and manure storage



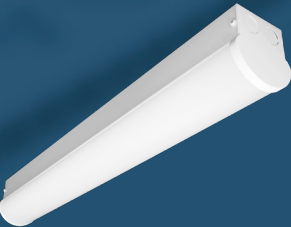
### Parking

Choose our OAL Site Lighting family of products for parking lots. We also carry a variety of luminaires for covered parking areas.



### High Bay

High bays are designed for larger storage environments. Utilize the HBL to provide optimal lighting for ceiling heights of 15 feet and more.



### Linear

A modern, economical, and energy-efficient light, LSC provides lighting for utility areas.



### Adjustable Sconce

Provide light right where you need it with OSA for walkways around the buildings and general exterior lighting.



### Vaportight

Dust, water and vapor are no match for the VT3. Light your greenhouses and grow rooms with our vapor tight products.



### Flood Light

Light areas between storage units and barns to provide safe walk paths for employees.



### Barn Light

ODL provides the perfect lighting around barn and storage units. Complete with photocell to provide light when you need it most.



### Low Bay

The sturdy optimal solution for low bay areas like stableyards and granaries.



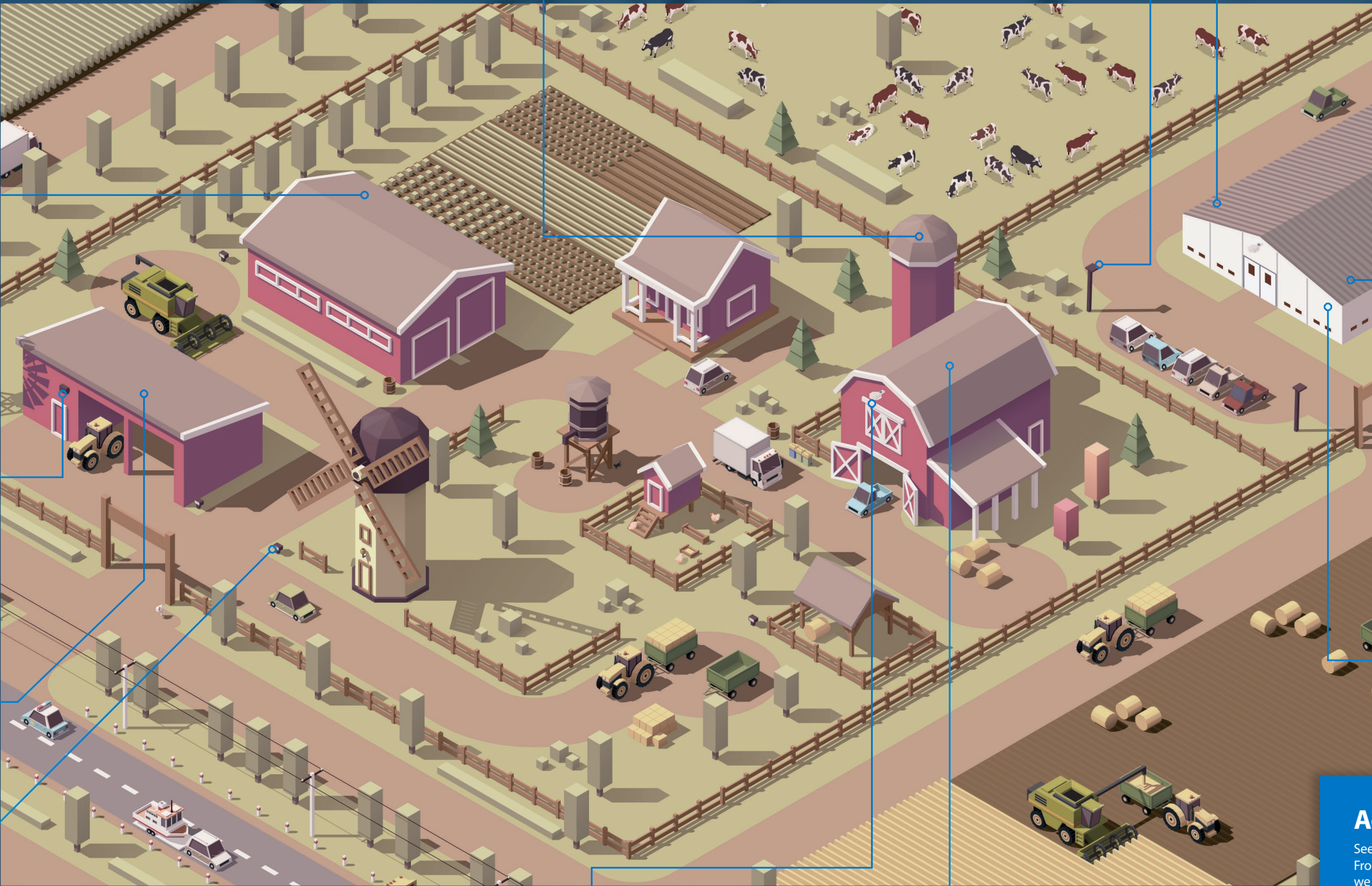
### Shop Lighting

Durable general ambient lighting, perfect for work stations, and utility spaces.



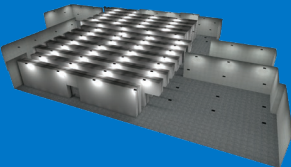
### Emergency

Meet egress requirements and provide safety for employees with our wide variety of emergency lighting fixtures.



## Agriculture Lighting

See how NICOR can assist with completing your layout. From interiors to exteriors and landscape lighting, we offer and exceed the standards you need. To help finalize the best light and quantities for your project give us a **call at 505-343-5390** and we can run a layout to determine the number of lights you need.



For more information see page 19



# Agriculture Starter Kit



## Complete Your Project With NICOR

NICOR's wide variety of lighting solutions makes it easy to complete your project from top to bottom. From high-performance industrial high bays to rugged and durable outdoor fixtures, NICOR carries everything you need to outfit your project. When you choose NICOR, you choose a single source to solve all your lighting needs.



HBG

HBL

HBC

### Benefits



98% Ship  
within 24 Hours



Let us do the heavy lifting. If your project involves a complex floor plan NICOR's engineers can create a detailed model of your space.



Nationwide warehouse locations combined with our experienced team of engineers and sales people, we deliver the highest level of customer support.

## Customize Your Kit

### Exits & Emergency



EML6



EXL5



EXL4



ECL2



ECL5

### Exterior & Landscape



ODL2



OWG2



OWF



OSA



OFL

### Site/Parking



OAL2



OGS

### Hazardous Locations



XPR



XPQ



XPL

### Interior Office



TAC



T6C



CLR

### Utility Lighting



UDL

### Interior Shop



WPC



LSC



LS1

### Enclosed Vaportites



VT2



VT3

**NICOR** | select

### Adjusts to your life

Make lighting easy with the flip of a switch. Simplify your installations using fixtures that can be adjusted on the fly. Depending on the product, NICOR select fixtures, indicated by an icon, are available with CCT or wattage options.

The Select series, making lighting simple.



Aisle Optics

The rectangular illumination pattern focuses light for aisles perfectly, reducing the overall number of fixtures required.

Wireway Compartment

Easy access cable connected wireway cover makes installation hassle-free.

Surge Protection

Industry leading built-in 10kA surge protection standard.

Lens Options

Diffuse lens option provides smooth, even illumination. The No Lens option offers the highest lumen output.

High Efficacy LEDs

Provide long-lasting, efficient performance; L88 at 60,000 hours, L70>160,000 hours.

Up to 50°C

Operating temperature of up to 50°C.

180  
LPW

Fewer Fixtures

With up to 180LPW fewer fixtures are needed.

HBG Spec Grade High Bay

The HBG provides spec grade optimization with precision-engineered optics, multiple distributions, and a choice of lumen outputs. Up to 180 LPW and aisle distribution will reduce the number of fixtures required; saving labor and cost of luminaires.

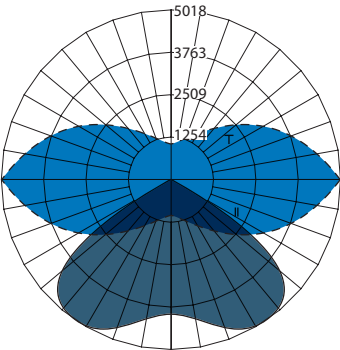
Performance Data 80CRI				70 CRI	
Model #	Lumens	Watts	LPW	Lumens	LPW
HBG116U4#A	16325	101.6	160.7	16771	165.1
HBG116U4#D	15684		154.4	16090	158.4
HBG116U4#N	17378		171.0	17954	176.7
HBG116U5#A	16371	145.3	161.1	16818	165.5
HBG116U5#D	15794		155.5	16203	159.5
HBG116U5#N	17515		172.4	18095	178.1
HBG123U4#A	23266	145.3	160.1	23918	164.6
HBG123U4#D	22499		154.8	23315	160.5
HBG123U4#N	24654		169.7	25797	177.5
HBG123U5#A	23326	204.4	160.4	24073	165.7
HBG123U5#D	22663		156.0	23485	161.6
HBG123U5#N	24813		170.8	25963	178.7
HBG133U4#A	32854	204.4	160.7	33727	165.0
HBG133U4#D	32231		157.7	32731	160.1
HBG133U4#N	35268		172.5	35970	176.0
HBG133U5#A	33219	204.4	162.5	34102	166.8
HBG133U5#D	32396		158.5	32899	161.0
HBG133U5#N	35446		173.4	36152	176.9



Photometric Data

HBG123U58A

Input Voltage (VAC)	120-277
System Level Power (W)	145
Delivered Lumens (lm)	23417
System Efficacy (lm/W)	161.2
Correlated Color Temp (K)	5000
Color Rendering Index (CRI)	80
Total Harmonic Distortion	<20%
Power Factor	>0.9
Beam Angle (H)	116°
Beam Angle (V)	49°
Spacing Criteria (H)	0.62
Spacing Criteria (V)	1.88

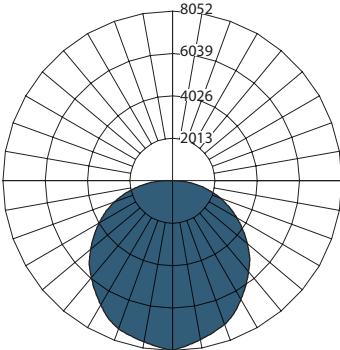


with aisle optics



HBG123U58D

Input Voltage (VAC)	120-277
System Level Power (W)	145
Delivered Lumens (lm)	22663
System Efficacy (lm/W)	156
Correlated Color Temp (K)	5000
Color Rendering Index (CRI)	80
Total Harmonic Distortion	<20%
Power Factor	>0.9
Beam Angle (H)	102°
Beam Angle (V)	117°
Spacing Criteria (H)	1.20
Spacing Criteria (V)	1.26



with diffuser lens



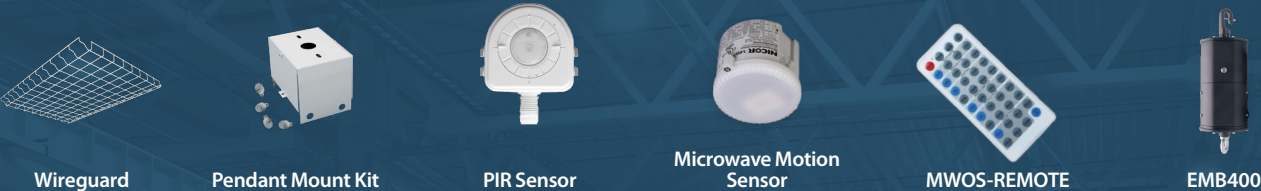
Ordering Information

Example: HBG116U47APE27

Series	Lumens	Voltage	CCT's	CRI	Lens	Sensor	Emergency	Wiring Options	Field Installed Plug Options <sup>7</sup>
HBG1	16 (16,000 lm, 102W)	U (120-277V)	40 (4000K)	7 (70+) <sup>1</sup>	A (Aisle)	___ (No Sensor)	___ (No EM)	___ (No Cord)	___ (No Plug)
	23 (23,000 lm, 145W)	H (347-480V)	50 (5000K)	8 (80+)	D (Diffuse) <sup>2</sup>	P (HB011-PDX)	E3 (EMB250) <sup>4</sup>	C6 (6 ft cord) <sup>5</sup>	1 (515P) 15A 120V Straight Blade
	33 (33,000 lm, 204W)				N (No Lens)	R (MWOS360R2)		C10 (10 ft cord) <sup>5</sup>	2 (L515P) 15A 120V Twist Lock
								F6 (6 ft FMC) <sup>6</sup>	3 (L615P) 15A 250V Twist Lock
									4 (L715P) 15A 277V Twist Lock
									5 (L720P) 20A 277V Twist Lock
									6 (L2320P) 20A 347V Twist Lock
									7 (L820P) 20A 480V Twist Lock

Specifications and dimensions subject to change without notice. 1. Consult factory. May have extended lead times or MOQ. 2. If field modification is required, diffuser lens will snap over 'A' aisle lens or 'N' no lens options. 3. 'N' (No lens) option is not DLC's 1 Qualified. 4. The EMB400 is only available as an accessory providing up to 40W of illumination. The EMB400 hangs above the luminaire and has an integral junction box for wiring. Only available with 120-277V. See EMB400 spec sheet for complete information. 5. Cord is 18/5 wire, 6' or 10' long, black. Other lengths available upon request. 6. Flexible metal conduit is 6' long, 18/5 wire configuration. Other lengths available upon request. 7. Field installed plugs are placed inside the carton for field attachment only. Plug not available with emergency enabled fixtures.

Accessories





# HBL3

## Rounded Edges

Smooth rounded edges provide safer handling of fixture

## Wireway Compartment

Easy access to wiring makes installation hassle-free

## Surge Protection

Built-in 10kA surge protection standard 20kA for High Voltage

## Lens Options

Standard with clear lens and has optional frosted diffuser available

## Hassle-Free Mounting

Easy mounting with chain and hook or optional pendant kit

### Performance Data

Model #	Lumens	Watts	LPW
HBL3110UNV40K	14389	108.4	132.7
HBL3110UNV50K	14399	107.8	133.6
HBL3162UNV40K	21132	158.6	133.2
HBL3162UNV50K	21356	159.5	133.9
HBL3223UNV40K	28615	216.3	132.3
HBL3223UNV50K	29234	217.3	134.5
HBL3321UNV40K	42115	318.9	132.1
HBL3321UNV50K	43026	318.7	135.0



## High Efficacy LEDs

Provide long-lasting, efficient performance with uniform color and light distribution greater than 130 LPW

## HBL3 the NICOR Workhorse

The HBL3 is the lighting solution for a wide variety of applications and mounting heights. The energy-efficient luminaire offers a long life, even uniformity and a variety of accessories and options. The economical solution for industrial, commercial and other high bay applications.



**Applications:** Barns, feed storage, warehouses, gymnasiums, garages, storage areas, commercial and manufacturing facilities, and stack aisles

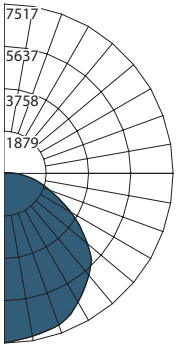
### Photometric Data

#### 5000K 110W HBL3

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	107.8
Delivered Lumens (Lm)	14399
System Efficacy (Lm/W)	133.6
Correlated Color Temp (K)	5012
Color Rendering Index (CRI)	84
Total Harmonic Distortion	10%
Power Factor	0.995
Beam Angle	115.1°
Spacing Criteria	1.32

#### 5000K 162W HBL3

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	159.5
Delivered Lumens (Lm)	21356
System Efficacy (Lm/W)	133.9
Correlated Color Temp (K)	4996
Color Rendering Index (CRI)	84
Total Harmonic Distortion	10%
Power Factor	0.995
Beam Angle	114.1°
Spacing Criteria	1.32



#### 5000K 223W HBL3

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	217.3
Delivered Lumens (Lm)	29234
System Efficacy (Lm/W)	134.5
Correlated Color Temp (K)	5024
Color Rendering Index (CRI)	84
Total Harmonic Distortion	10%
Power Factor	0.995
Beam Angle	113.1°
Spacing Criteria	1.31

#### 5000K 223W HBL3

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	318.7
Delivered Lumens (Lm)	43026
System Efficacy (Lm/W)	135.0
Correlated Color Temp (K)	5014
Color Rendering Index (CRI)	84
Total Harmonic Distortion	10%
Power Factor	0.995
Beam Angle	115.1°
Spacing Criteria	1.32



14,400Lm



21,400Lm



29,200Lm



43,000Lm

### Ordering Information

Series	Ver.	Wattage	Voltage	CCT's	Lens	Sensor	Emergency	Wiring Option	Field Installed Plug Options <sup>1</sup>
HBL	3	110 (110W 14,000 Lms)	UNV (120-277V)	40K (4000K)	___ Clear	___ (No Sensor)	___ (No EM)	___ (No Cord)	___ (No Plug)
		162 (162W 21,000 Lms)	HV (347-480V) <sup>3</sup>	50K (5000K)	D (Diffuse)	P (HB011-PDX)	E3 (EMB250)	C (Cord) <sup>2</sup>	1 (S15P) 15A 120V Straight Blade
		223 (223W 29,000 Lms)				R (MWOS360R2)		F (FMC) <sup>3</sup>	2 (L515P) 15A 120V Twist Lock
		321 (321W 43,000 Lms)							3 (L615P) 15A 250V Twist Lock
									4 (L715P) 15A 277V Twist Lock
									5 (L720P) 20A 277V Twist Lock
									6 (L2320P) 20A 347V Twist Lock
									7 (L820P) 20A 480V Twist Lock

Specifications and dimensions subject to change without notice. 1. Field installed plugs are placed inside the carton for field attachment only. Plug not available on emergency enabled fixtures. 2. Cord is 18/3 wire, 6' long, black. Other lengths available upon request. 3. Flexible metal conduit is 6' long, 18/3 wire configuration. Other lengths available upon request. 4) The HV option is not available in 321W unit.

## Accessories



Wireguard



Pendant Mount Kit



PIR Sensor



Microwave Motion Sensor



MWOS-REMOTE



EMB400



# HBC3

## Flat Optic Lens

Flat Optic is available in 60° & 90° great for low clearance areas

## Tempered Glass Lens

Fixture comes standard with clear lens and has optional reflectors and optics available

## Hassle-Free Mounting

Mounting hook with locking bolt allows for rapid installation

## Driver & LEDs

Providing long-lasting, efficient performance with uniform color and smooth distribution

## Reflectors

Shown with a frosted reflector that reduces glare and creates a 70° beam angle.

## Beautifully Redesigned with Improved Efficiency

The HBC3 LED high/low bay is a high-performance fixture perfect for replacing 250W and 400W metal halide luminaires at an affordable price. This high bay fixture supplies an output greater than 150 LPW with excellent color rendering at >80CRI. The die cast aluminum heatsink design allows for a lightweight unit. With consistent, even light distribution this fixture is perfect for environments such as barns, cattle buildings, and feed storage.

Performance Data			
Model #	Lumens	Watts	LPW
HBC3100SUNV40K8	14192	100	141.9
HBC3100SUNV50K8	14852		148.5
HBC3100SHV40K8	14078		140.8
HBC3100SHV50K8	14733		147.3
HBC3150SUNV40K8	21734	153	142.1
HBC3150SUNV50K8	23094		150.9
HBC3150SHV40K8	21560		140.9
HBC3150SHV50K8	22909		149.7
HBC3200SUNV40K8	28787	201	143.2
HBC3200SUNV50K8	30302		150.8
HBC3200SHV40K8	28557		142.1
HBC3200SHV50K8	30060		149.6



\* For Standard Model Only



**Applications:** Barns, cattle buildings, feed storage, hangers, warehousing, and storage facilities

## Photometric Data

### HBC3 100W 5000K

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	99.5
Delivered Lumens (Lm)	14852
System Efficacy (Lm/W)	151.0
Correlated Color Temp (K)	5016
Color Rendering Index (CRI)	83
Beam Angle	114.3°
Spacing Criteria	1.30

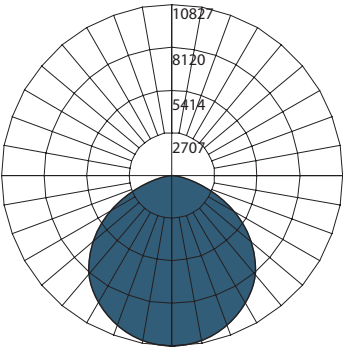
### HBC3 150W 5000K

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	155.4
Delivered Lumens (Lm)	23094
System Efficacy (Lm/W)	149.5
Correlated Color Temp (K)	5022
Color Rendering Index (CRI)	83
Beam Angle	114.0
Spacing Criteria	1.30

### HBC3 200W 5000K

Luminaire	5000K
Input Voltage (VAC)	120-277
System Level Power (W)	201.5
Delivered Lumens (Lm)	30302
System Efficacy (Lm/W)	150
Correlated Color Temp (K)	5014
Color Rendering Index (CRI)	83
Beam Angle	113.4
Spacing Criteria	1.30

### 200W 5000K Clear Lens



Standard body style (shown in white)



High voltage fixtures available



HBC3 with EMB400



HBC3 with motion sensor and installation kit

## Ordering Information

Example: HBC3200SUNV50K8

Series	Version	Wattage	Voltage	CCT's	CRI	Finish	Optic	Motion Sensor
HBC	3	100S (100W - 14500lm)	UNV (120-277)	40K (4000 K)	8 (80+)	__ (Black)	__ (120°)	__ (none)
		150S (150W - 23000lm)	HV (347-480) <sup>1</sup>	50K (5000 K)		WH (White)	60D (60°)	R (Microwave Sensor) <sup>3,4</sup>
		200S (200W - 30000lm)				CC (Custom Color) <sup>2</sup>	90D (90°)	

Specifications and dimensions subject to change without notice. 1) HV option not available with 'R' Microwave Sensor Kit 2) Custom Color requires MOQ 3) Microwave sensor option includes sensor, junction box, and all associated hardware pre-installed. 4) Microwave sensor not compatible when using glare shields: HBC3GSAL and HBC-20-GS-P

## Accessories



Wire Guard



60° or 90° Aluminum Reflector



70° Polycarbonate



Glare Shield



Pendant Mount Kit



Pendant Mount Adapter



U-Bracket



MWOS-REMOTE



EMB400



# Choose your Ideal High/Low Bay

## HBG

The HBG provides spec grade optimization paired with maximum efficiency. An excellent choice for new construction installations. Utilize the aisle optic in racking areas for optimal performance in storage facilities. Its precision designed optics and variety of distributions and lumen outputs make it easy to fit in any application.



## HBL3

The perfect mid-range option offering an economical choice packaged with high performance. Designed with energy efficiency in mind it meets DLC premium standards while providing excellent color rendering, and even uniformity. Excellent for retrofits when replacing one-for-one older technology luminaires.



Comparison Chart	Lumens	18,100	26,000	36,200	14,400	21,400	29,200	43,000
	Efficiency	155-180			133-135			
	CRI	70 or 80			84			
	CCT	4K & 5K			4K & 5K			
	Optics	Aisle, Diffuse, or No Lens			Clear or Diffuse			
	Sensor Options	HB011-PDX, MWOS360R2			HB011-PDX, MWOS360R2			
	Ambient Range	-4° to 122°F (-20° to 50°C)			-40° to 113°F (-40° to 45°C)			
	Emergency	EMB250 or EMB400			EMB250 or EMB400			
	Ratings							
	DLC	5.1 Premium			5.0 Premium			

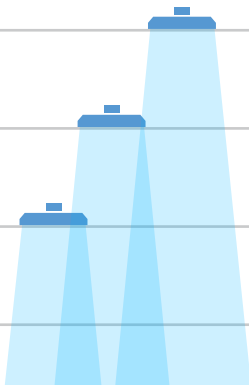
### High/Low Bay Comparison

Warehouses, sports complexes, manufacturing facilities, airports  
50-80' Ceilings

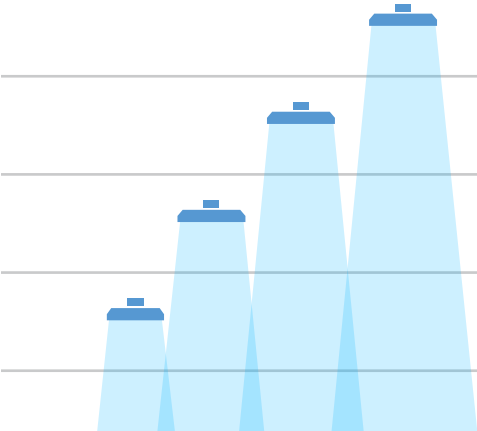
Warehouses, gymnasiums, showrooms, garages  
25-35' Ceilings

Warehouses, manufacturing facilities, garages, gymnasiums  
20-35' Ceilings

Storage areas, garages, aisle lighting small warehouses  
15-25' Ceilings



HBG at 5K aisle optics
43,026Lm 319W
29,234Lm 217W
21,356Lm 160W
14,399Lm 108W



HBL3 at 5K
43,026Lm 319W
29,234Lm 217W
21,356Lm 160W
14,399Lm 108W

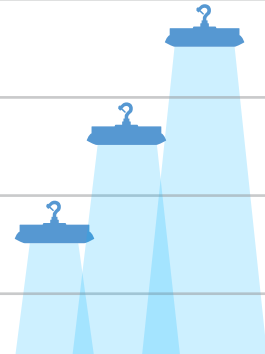
## HBC3

The HBC is a UFO style fixture featuring a 6" height that makes it compact and perfect for areas with low clearance. Its lightweight die-cast aluminum heatsink, and three for reflector key-holes add-ons make it easy on installation and cutting down on labor costs.



14,900	23,100	30,300
141-151		
83		
4K & 5K		
Clear, 60° and 90° optic, or 60°, 70°, 90° reflector		
MWOS360R2		
-40° to 113°F (-40° to 45°C)		
EMB400		
* For Standard Model Only		
5.0 Premium		

HBC3 at 5K	HID		Fluorescent	
	750W MH 859W		12 Lamp T5 648W	
	400W PSMH 458W		8 Lamp T5 468W	
	400W MH 458W		6 Lamp T5 351W	
	520W MH 297W		4 Lamp T5 234W	



# Emergency

## Battery Backups

Power failures happen, and you need to be prepared. Our line of emergency drivers provides constant power with a consistent lumen output for 90 minutes. Not sure which driver is right for your project? Reach out to our application engineers to help determine the best solution for your emergency lighting needs.

## EMB400

40W max output on any fixture up to 300W. Easily test your emergency lighting monthly and yearly to meet NFPA 101® without the need of a ladder, using the optional remote control for an unbeatable convenience!



Perfect for HBC3

## EMB250

Outputs 25W (max)



## EMB80

Outputs 8.5W (constant)

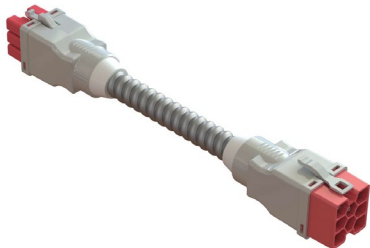




# Codes, Compliance, & Controls

## Modular Power Supply

NICOR's modular power supply system for lighting control and power distribution provides advantages for contractors and facility managers. The flexible system not only reduces installation time but saves time for maintenance and future renovations for any space. The plug-n-play system quickly snaps together and offers a selection of drop boxes, fixture drops and cables. Contact NICOR today for more information.



## Easily Connect

The modular system makes it each to connect fixtures to one another and to the power supply.

## Innovative Solutions

Optimize agricultural lighting for greater energy savings, convenience, and scalability.



## ASHRAE 90.1 and IECC Codes

In the United States, energy codes are typically based on either ASHRAE 90.1 and the Illuminating Engineering Society (IES) or The International Energy Conservation Code (IECC). These are typically minimum requirements for energy-efficient design of most buildings. The goal of reduced energy consumption of 3.5-quadrillion BTU per year and reduced CO2 emissions of 3% by 2030. The code states that at least 50% of all fixtures must be automatically shut-off when unoccupied.

## What's Required?

ASHRAE/IES 90.1 2016 requires that warehouse storage lighting be automatically reduced when it is not in use. Specifically, lighting power must be reduced by at least 50% within 20 minutes of vacancy.

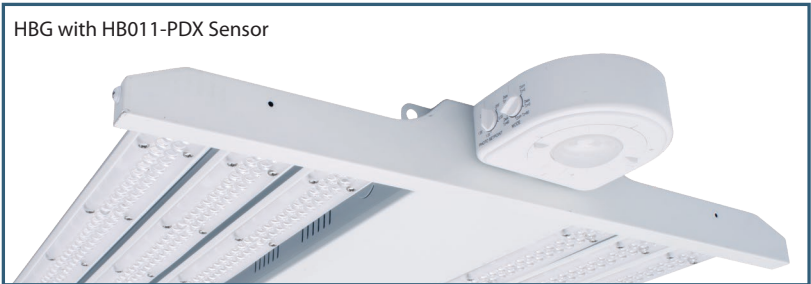
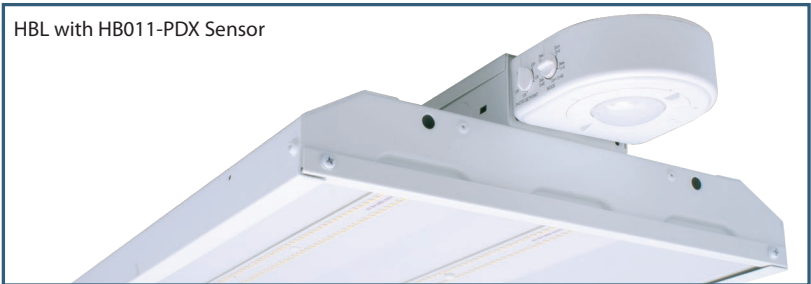
## TITLE 24

NICOR luminaires meet and exceed Title 24, California's non-residential lighting control requirements, when used with additional controls. The controls include occupancy sensing, daylighting, luminaire dimming, and lighting power density.

## The Solution

Optimized to meet energy codes for occupancy sensing and daylight harvesting, NICOR has several sensor controls to meet your needs and save energy.

The NICOR HB011-PDX passive infrared dimming sensor is easy to set with radio dials for your convenience.

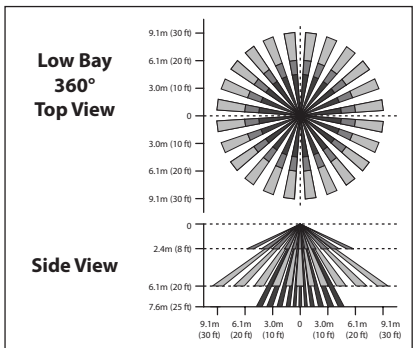
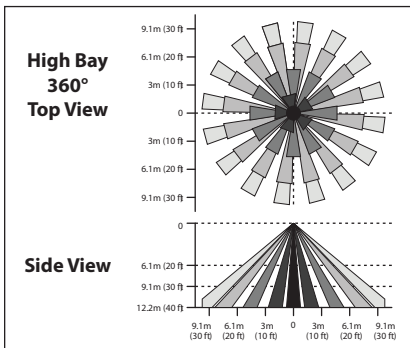


## Wireless Options

NICOR's Bluetooth Low Energy (BLE) wireless node is available on a variety of luminaires. The technology provides a mesh network where the intelligence of the system is replicated in each node. From small to large networks this option is controlled by a simple app. Contact factory for further information and check compatibility with your desired fixture.

## PIR Dimming Sensor - HB011-PDX

- Auto calibration for daylighting, easy ladderless configuration
- Integrated photocell
- Adjustable time delay
- 0-10V dimming
- Adjustable PIR sensitivity
- Daylighting configuration
- Visual LED indications for easy troubleshooting
- 360° field-of-view for 8'-20' low bay or 20'-40' high bay mounting heights



## Microwave Motion Sensor MWOS360R2

- Microwave motion detector with built in daylight sensor
- Self contained relay, no power pack required
- No minimum load requirement
- Remote and DIP switch programmable, additional setting options with remote handheld to adapt different installation environment and applications
- Highly configurable: detection area, time delay, daylight
- Threshold, dimming level, stand-by period
- IP65 Rated
- MWOS-REMOTE, sold separately



Sensors can be used with an IMS system to increase energy savings and efficiency.

## Take Control of Your Lighting with NICOR's All-In-One System.

NICOR's IMS Lighting Control System introduces simplicity in installation with an easy-to-use UI (User Interface) that anyone can use. The DALI enabled system provides control on all levels from individual fixture control to multi-site empowerment with our Master Control Unit, or MCU for short. Developed with energy management in mind this system is perfect for industrial facilities, data centers, and large commercial buildings. With millions of square feet being installed, you can breath easy knowing the NICOR IMS is a tried and tested solution for your lighting needs.

- IMS/MCU networking capability
- Full IMS networking structure
- Low voltage IMS enabled luminaires
- Interactive floor plans
- Automated Demand Response (ADR) capable
- Remote access controllability
- Energy consumption and usage
- Fixture health reporting



Helpful Hints

- A high bay luminaire is typically mounted at 20' or higher, low bay is 20' or lower
- Most storage layouts average about 35 footcandles at the work plane level
- Most new construction buildings have 25'-40' ceilings
- Recommended reflectance levels are 80/50/20
- When warehouses include racking system, it is best to specify the HBG high bay with its engineered aisle optics



Facility Footcandle Minimums			
Task	Horizontal Target (E <sub>h</sub> )	Vertical Target (E <sub>v</sub> )	Uniformity Target
Loading	10-20	3-6	3:1
Picking/Classifying	10-20	5-10	3:1
Receiving/Staging	30-60	10-20	2:1
Packing/Labeling	30-60	15-30	3:1
Inactive Storage	5-10	2-4	5:1
Inspection	100-200	100-200	3:1
Active Storage (large labels/items)	10-20	5-10	5:1
Active Storage (small labels/items)	30-60	15-30	3:1

Above are the lighting recommendations from the Illuminating Engineering Society. These are minimum levels for each type of task completed in manufacturing facilities. Good lighting is more important than ever.

The effects of great lighting increase workplace productivity

Eye strain, headaches, reduced productivity and poor concentration are contributed from poor lighting conditions, which can decrease accuracy. Additionally the proper color temperature and CRI can increase productivity. An increase as little as 1% in productivity beats any kind of energy savings from antiquated lighting.



Improve Productivity



Complex Floor Plan?

If your project involves a complex floor plan or requires a more detailed layout analysis, our team of application engineers can create a detailed 3-D model of your space.

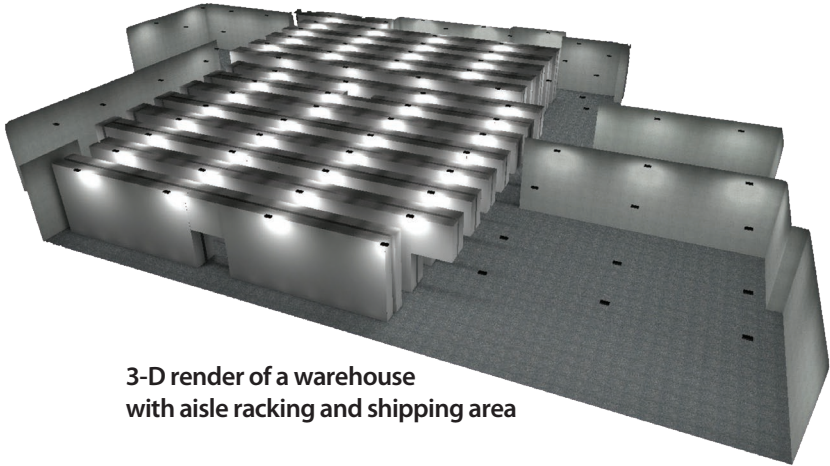
The Making of a Layout

- Our application engineers will help you satisfy your customer's requirements; from specific footcandle levels, working space requirements and more. Our customized report provides an in-depth look at how NICOR's lighting solutions are the perfect fit for any project.
- Exporting RCP as CAD files for 3-D modeling
  - Revealing hard to detect effects of lighting
  - Showing uniformity ratios & illuminance levels in specific areas
  - Turnaround in 1-2 days

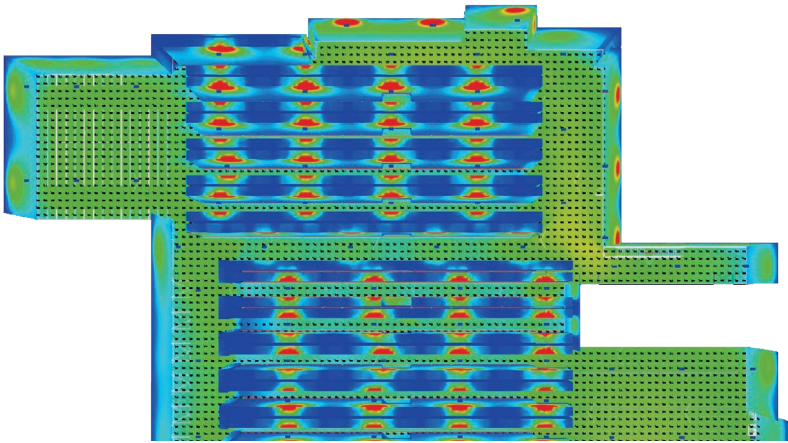


Email or Call Today

layouts@nicorlighting.com  
505-343-5390  
**Simple Layout?**  
Visit our website:  
<https://nicorlighting.com/lighting-layouts/>



3-D render of a warehouse with aisle racking and shipping area



Heat Map







### Warehouse Locations

Albuquerque, NM  
Atlanta, GA  
Detroit, MI  
Folcroft, PA  
Houston, TX

Roseville, CA  
Syracuse, NY  
Van Nuys, CA  
Wood Dale, IL

**T 800.821.6283**

F 800.892.8393

[www.nicorlighting.com](http://www.nicorlighting.com)

2200 Midtown Pl. NE  
Albuquerque, NM 87107 USA



LIT-AGRICULTURE-10PK

20211123

©2021 NICOR® • ALL RIGHTS RESERVED

**NICOR**® | **LED**