RAB DESIGN

RH1S-LED
LED Round Highbay

IDEAL APPLICATIONS

✔ Warehouses ✔ Factories ✔ Gyms ✔ Industrial Applications

✔ Food and Beverage Processing ✔ Commercial Kitchens

DESCRIPTION:

The RHS-LED Series of highbay luminaires are ruggedly designed, easy to install, and deliver a high lumen output ideal for illuminating warehouses, manufacturing facilities, recreational facilities, gyms, food and beverage processing and commercial kitchens. With ControlLED capability, it integrates plug-and-play motion and daylight sensors wirelessly and with Bluetooth mesh network, providing advanced lighting control without hubs or gateways. NEMA4X and NSF certified.

FEATURES:

- Ruggedly designed with die cast aluminum body and polycarbonate lens. NEMA4X and NSF certified.

- Colour Selectable fixture allows Installer to choose between 3500K/4000K/5000K at the time of installation.

- The Lumen adjustable fixture allows Installer to select between 3 wattage settings:
  RH1S-LED100A60 - 100W/80W/60W
  RH1S-LED150A100 - 150W/120W/100W

- Easy to install with mounting hook and 2 meter cord for line voltage and 0.5 meter cord for 0 -10V dimming.

- At each wattage setting, the brightness can be adjusted using the DC dimmer and remote control (sold separately).

- 12VDC Auxiliary available from fixture for lighting controls.

- Fixture can be suspended, pendant or yoke mounted. (Yoke sold as a separate accessory)

- Optional dual-functionality motion sensor/dimmer with easy plug-and-play install with no wiring needed. (More details on page 10)

- Optional smart lighting control available: Lutron Athena Wireless smart control allows zone and control changes digitally and wirelessly.

- Optional Bluetooth PIR motion & DLH sensor, programmable with ControlLED app to manage lighting controls.

SPECIFICATIONS	RH1S-LED100A60	RH1S-LED150A100
Watts (Maximum)	100.2 W	142.0 W
Lumens (Maximum)	14802 Lm	21045 Lm
Efficacy	147.8 Lm/W	148.2Lm/W
Replaces Up To	250 MH	400 MH
Colour Temp	VK - Colour Selectable (3500K/4000K/5000K)	
Voltage	120-347 V	
CRI	83	
Dimming	0-10V Dim to Off	
THD	3.32%	3.62%
PF	0.998	
Beam Angle	90 Degrees	
LED Life (L78)	100,000 Hours	
Housing Finish	Matte Black	
Housing Details	Die Cast Aluminium	
Lens Details	Clear Polycarbonate Lens	
Mounting	Suspended*, Pendant, Yoke	
Cable Length	Input Power: 2m Cab Tire Cable (SJTW 3x18 AWG) Dimming and 12VDC AUX- 0.5m Cab Tire Cable (3x22 AWG)	
Operating Temp.	Without Motion Sensor: -40° to 50°C With Motion Sensor: -30°C to 50°C With Battery Backup: 0°C to 50°C	
Options Sold Separetely	Yoke, Wire Guard, Polycarbonate/Aluminum Reflectors and Cover, Twistlock Motion Sensor/Wireless Dimmer and Remote Control, Emergency Battery Back-up, Junction Box Pendant Mount Kit, Adaptors for 1/2" NPT and 3/4" NPT Thread, Lutron Athena Wireless Lighting Control	
Certifications	cULus Listed for Canada and USA, per UL1598, CSA C22.2 NO. 250.0-18, 4th Ed, Wet Location, IP65, DLC Premium, NEMA 4X per UL 50E, CSA C22.2 No. 94.2:20, 3G vibration rated per ANSI/ IEEEC136.31-2010, NSF (Splash Zone and Non Food Zone), 5 Year Warranty	

Note: Specs shown are for 120V/4000K
*Standard Configuration

ORDERING GUIDE:

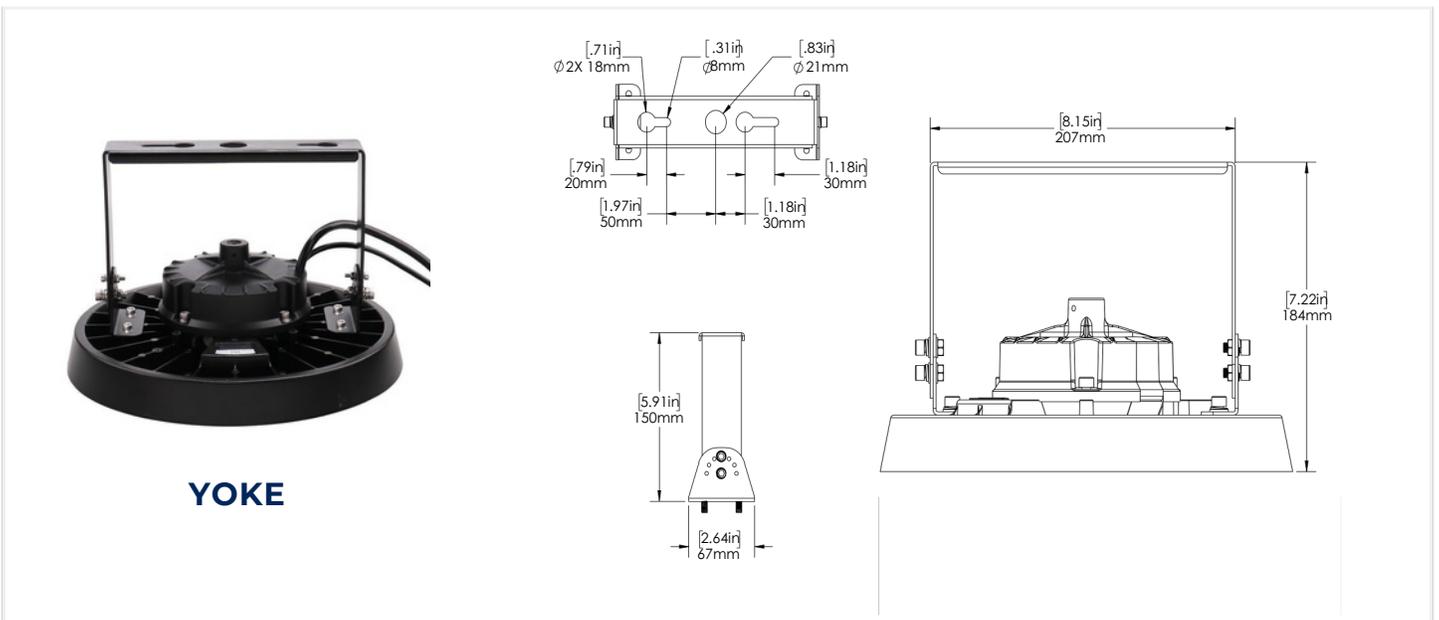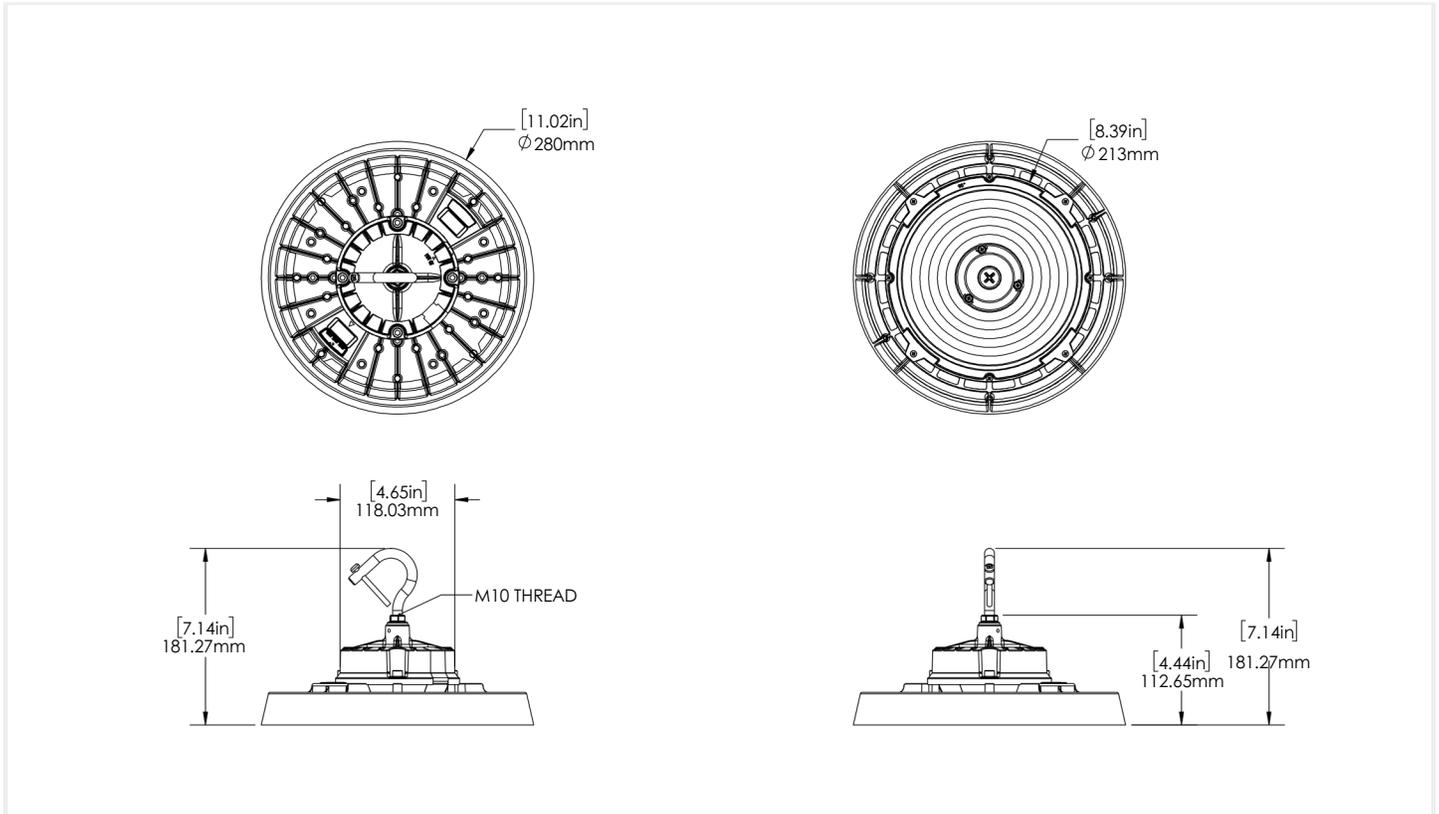| RH1S		H	VK	BLK	DIM	PCL	FS	N4X
Fixture	**Wattage**	**Voltage**	**Colour Temp.**	**Finish**	**Dimming**	**Lens**	**NSF Certification**	**NEMA 4X Certification**
	LED100A60 LED150A100	H - 120-347V	VK-Colour Selectable (3500K/ 4000K/ 5000K)	BLK - Matte Black	DIM - 0-10V Dimming	PCL - Polycarbonate Lens	FS - NSF	N4X - NEMA 4X

STOCK CODES	
081610	RH1S-LED100A60-H-VK-BLK-DIM-PCL-FS-N4X
081611	RH1S-LED150A100-H-VK-BLK-DIM-PCL-FS-N4X

ACCESSORIES SOLD SEPARATELY	
002374 - RH1S STEEL WIRE GUARD	080909 - MICROWAVE SENSOR (50ft max height) 081300 - PIR SENSOR 1 (20ft max height) 081837 - PIR SENSOR 2 (40ft max height) All motion sensors can be used as dimmer only.
081618 - RH1S ALUMINUM REFLECTOR	
081620 - RH1S POLYCARBONATE REFLECTOR (CLEAR PRISMATIC)	080970 - MOTION SENSOR REMOTE CONTROL
0081622 - RH1S/RH2S POLYCARBONATE REFLECTOR COVER	084210 - HIGHBAY BLUETOOTH PIR MOTION/DLH SENSOR & ADAPTER
002327 - JUNCTION BOX PENDANT KIT BLK 002386 - JUNCTION BOX PENDANT KIT BLK W/AWNR*	140748 - M10-1/2" NPT ADAPTER NICKEL PLATED IRON BLK
080564 - RH1S YOKE BLK	140750 - M10-3/4" NPT ADAPTER NICKEL PLATED IRON BLK
002318 - 40W 120-347V EMERGENCY BATTERY BACKUP BLK	

*Lutron Athena Wireless Node with RF only (A-WN-D01-RF-BL) is installed in the junction box. Gateway and controller not included.
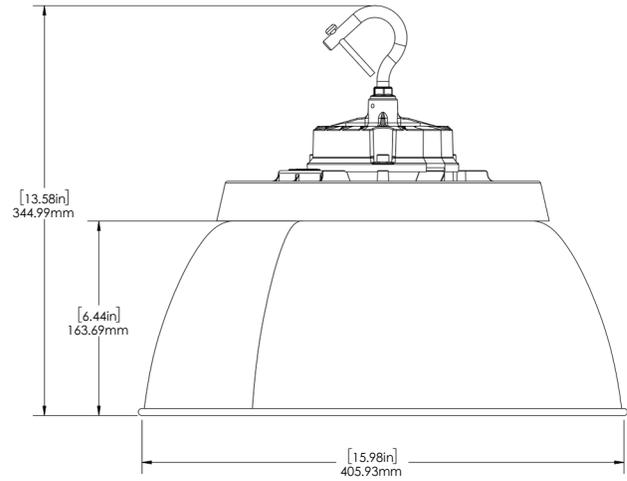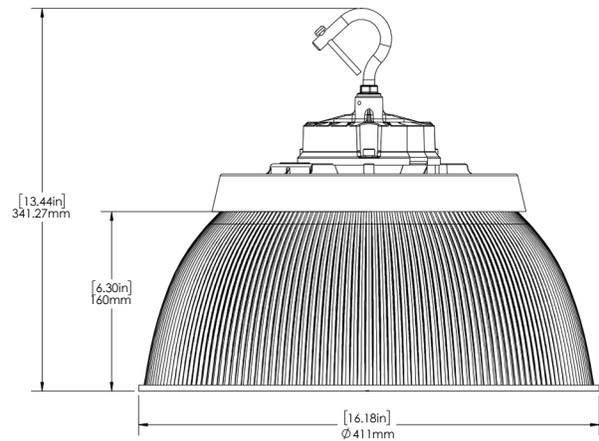
DIMENSIONS:

[11.02in]
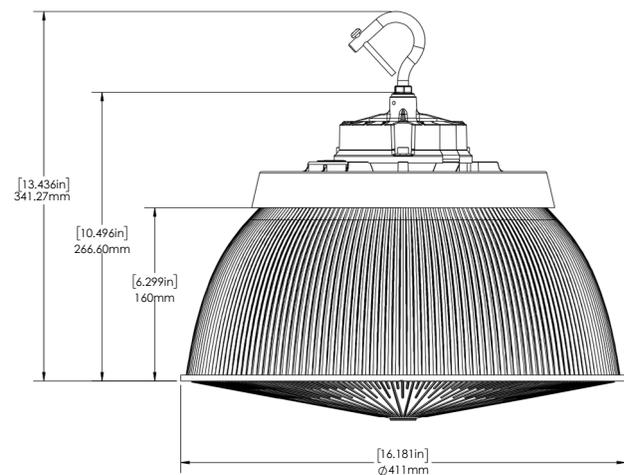∅ 280mm

[8.39in]
∅ 213mm

[4.65in]
118.03mm

M10 THREAD

[7.14in]
181.27mm

[7.14in]
181.27mm

[4.44in]
112.65mm

YOKE

[.71in]
∅ 2X 18mm

[.31in]
∅ 8mm

[.83in]
∅ 21mm

[.79in]
20mm

[1.18in]
30mm

[1.97in]
50mm

[1.18in]
30mm

[8.15in]
207mm

[7.22in]
184mm

[5.91in]
150mm

[2.64in]
67mm

DIMENSIONS:

ALUMINUM REFLECTOR

[13.58in]
344.99mm

[6.44in]
163.69mm

[15.98in]
405.93mm

PC REFLECTOR
(CLEAR PRISMATIC)

[13.44in]
341.27mm

[6.30in]
160mm

[16.18in]
⌀411mm

PC REFLECTOR
COVER

[13.436in]
341.27mm

[10.496in]
266.60mm

[6.299in]
160mm

[16.181in]
⌀411mm

DIMENSIONS:

WIRE GUARD

[9.02in]
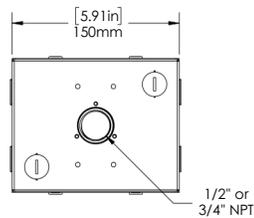229.13mm

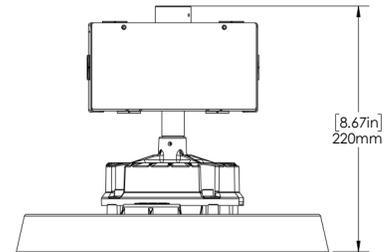[6.01in]
152.61mm

[1.89in]
48.13mm
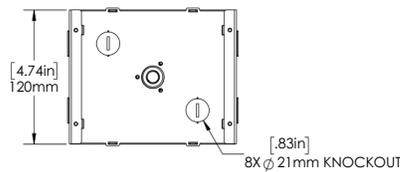
[10.27in]
260.80mm
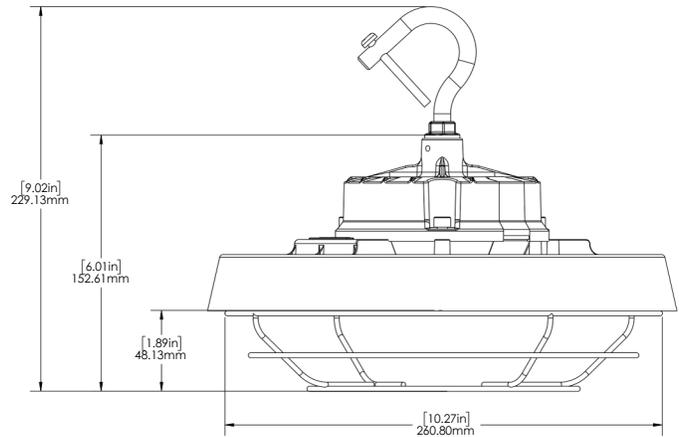
**JUNCTION BOX WITH 1/2"
OR 3/4" NPT ADAPTER**

Athena Wireless Node is installed in the junction box (not wet location rated) for the option with Lutron Athena Wireless Control system.
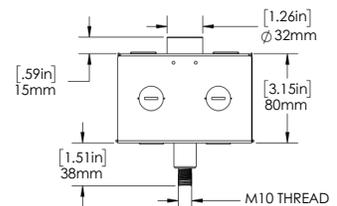
[5.91in]
150mm

1/2" or
3/4" NPT

TOP VIEW

[8.67in]
220mm

FRONT VIEW

[4.74in]
120mm

[.83in]
8X ⌀ 21mm KNOCKOUT

BOTTOM VIEW

[1.26in]
⌀ 32mm

[.59in]
15mm

[3.15in]
80mm

[1.51in]
38mm

M10 THREAD

SIDE VIEW

DIMENSIONS:

FIXTURE DIMENSIONS WITH BATTERY BACKUP KIT

[8.12in]
206.30mm

[4.33in]
110mm

[15.90in]
403.92mm

[3.96in]
100.46mm
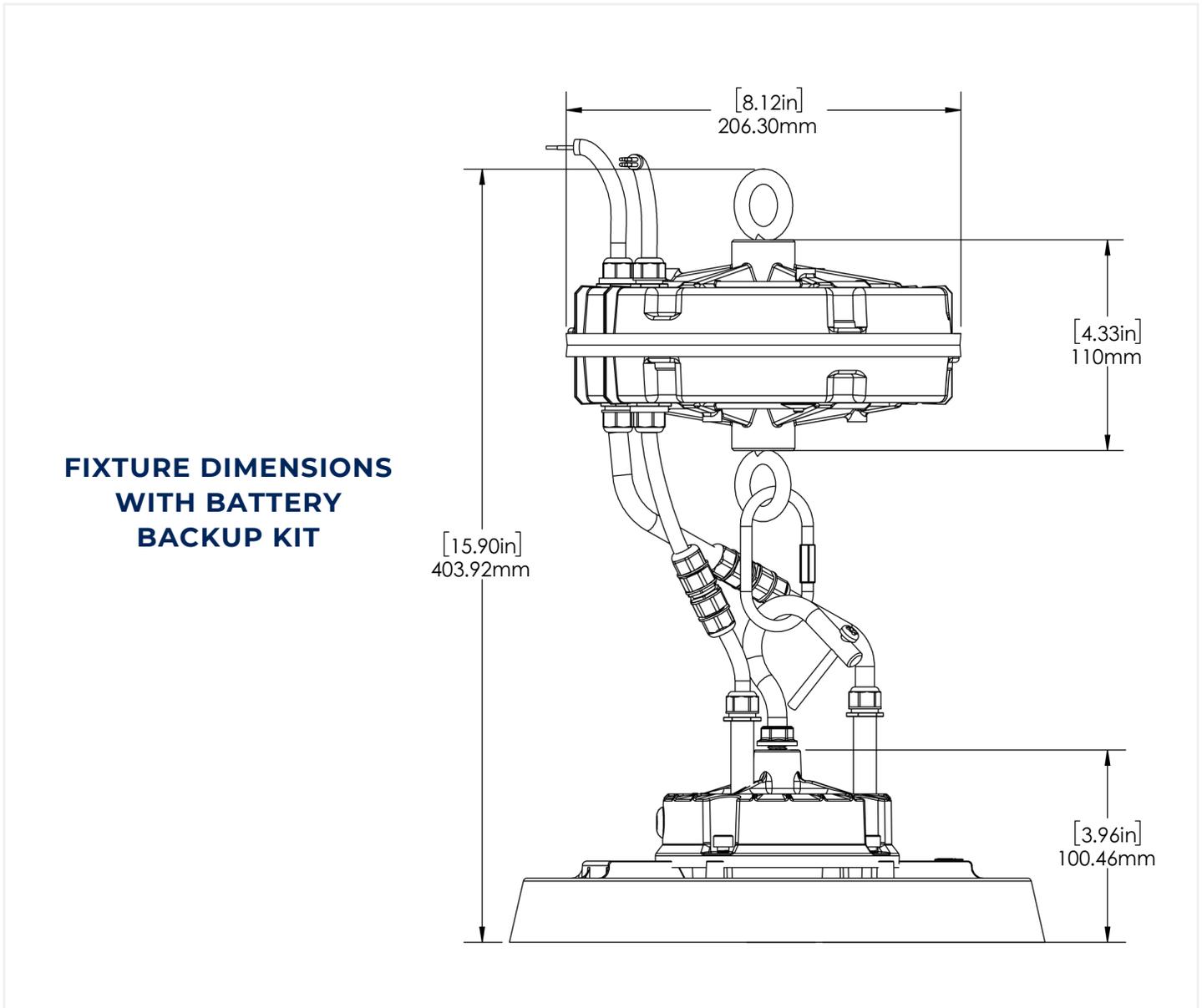
SPECIFICATIONS

Model Number	Voltage (V)	Power (W)	Light Output (lm)	Efficacy (lm/W)	THD (%)	PF	CCT (K)	CRI
RH1S-LED100A60-H-VK-BLK-DIM-PCL-FS-N4X (3500K)	120-347	103.37	13751.1	133.03	3.40	0.998	3508	82
RH1S-LED100A60-H-VK-BLK-DIM-PCL-FS-N4X (4000K)	120-347	100.17	14802.1	147.77	3.32	0.998	4164	83
RH1S-LED100A60-H-VK-BLK-DIM-PCL-FS-N4X (5000K)	120-347	102.17	13720.4	134.29	3.42	0.998	5109	83
RH1S-LED150A100-H-VK-BLK-DIM-PCL-FS-N4X (3500K)	120-347	147.09	19549.3	132.91	3.83	0.998	3504	82
RH1S-LED150A100-H-VK-BLK-DIM-PCL-FS-N4X (4000K)	120-347	142.00	21045.3	148.21	3.62	0.998	4192	83
RH1S-LED150A100-H-VK-BLK-DIM-PCL-FS-N4X (5000K)	120-347	148.29	19841.1	133.80	3.75	0.998	5160	82

AMPERAGE DRAW & SURGE PROTECTION

	MAX. CURRENT (A)					SURGE PROTECTION (kV)
	120V	208V	240V	277V	347V	120-347V
RH1S-LED100A60	0.88A	0.51A	0.44A	0.38A	0.31A	6kV
RH1S-LED150A100	1.25A	0.72A	0.63A	0.54A	0.43A	

LUMEN ADJUSTABLE SETTING

RH1S-LED100A60			
WATTS (W)	100	80	60
LUMENS (Lm)	14802	11824	8868
RH1S-LED150A100			
WATTS (W)	150	120	100
LUMENS (Lm)	21045	17784	14780

Max power lumens are as per DLC reported listings. Other lumen values are calculated using the DLC max power reported efficacy.

WEIGHT (LBS)

RH1S-LED100A60	5.07
RH1S-LED150A100	

LUMEN MAINTENANCE

	50,000 Hours	75,000 Hours	100,000 Hours
RHB1S-LED100A60	88.6%	83.5%	78.7%
RHB1S-LED150A100			

Life hours are derived from IESNA LM-80 testing report and projected per IESNA TM-21 calculations.

MOTION SENSOR SPECIFICATIONS - PROGRAM USING REMOTE CONTROL

Sensor Type	Microwave & PIR
Microwave Frequency	5.8GHz +/- 75MHz
Operating Voltage	12VDC
Operating Current	30mA
Output Voltage	0-10V
Stand-by Power	<0.5W
Detection Range	Microwave Sensor: 50 ft PIR Sensor 1: 20 ft PIR Sensor 2: 40ft Microwave Sensor: 66 ft PIR Sensor 1: 26 ft PIR Sensor 2: 26 ft
Maximum Detection Angle	360°
Ambient Operating Temperature[1]	-30°C to 60°C (-22F to 140F)
Indoor/Outdoor Use	Both Indoor & Outdoor
IP Rating	IP65
Installation	Field installed - Wireless Plug & Play

MOTION SENSOR PROGRAMMING

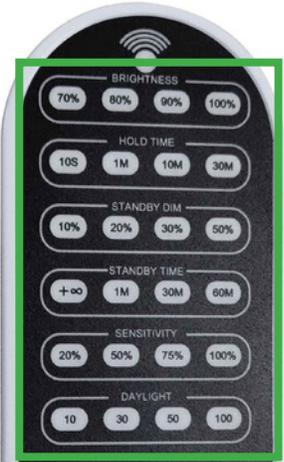|	
Programming Tool	Highbay Motion Sensor Remote Control
Brightness	70%/80%/90%/100%*
Sensitivity	20%/50%/75%/100%*
Hold Time	10s/1min*/10min/30min
Daylight Sensor	10Lux/30Lux/50Lux/100Lux/Disabled*
Standby Dim	10%/20%*/30%/50%
Standby Time	1min*/30min/60min/+∞

- Default settings marked with *
- Default Setting: After no motion for 1min (hold time), the fixture will dim from 100% (brightness) to 20% (stand-by dim level). After no motion for another 1 min (stand-by time), the fixture will turn off.
- For instructions on programming the motion sensor remote control, please see the Installation Instructions.
- [1]When installed in the fixture, the system's ambient operating temperature is limited by the component with the lowest allowable range.

BATTERY BACKUP SPECIFICATIONS

Input Power	8W
Input Voltage	120-347V
Output Power (Emergency Mode)	40W
Recharge Current	0-500mA
Recharge Time	24 Hrs
Discharge Time	90 min
Ambient Operating Temperature[1]	0°C to 50°C (32F to 122F)
IP Rating	IP65
Installation	Field installed - Suspension Mounted
Light Output[2]	5880 lm

- [1]When installed in the fixture, the system's ambient operating temperature is limited by the component with the lowest allowable range.
- [2]Lumen output with emergency battery backup can be calculated by multiplying the battery output power with the efficacy of fixture.

DC MOTION SENSOR/DIMMER REMOTE CONTROL SETTINGS

SPECIFICATIONS		
	ON/OFF	Long press until the brightness indicator light is on. Then press to permanently turn on and off the fixture.
	BRIGHTNESS	Sets the highest light fixture brightness when motion is detected.
Top Section: Settings Display Area	HOLD TIME	The time the light fixture will remain at the brightness setting after it detects motion.
	STAND-BY DIM	The dim level that the light fixture will dim down after the Hold Time has expired.
	STAND-BY TIME	The time the light fixture will remain in the Stand-by dim state before it shuts off. To disable the light from shutting off, select the INFINITY icon.
	SENSITIVITY	Sets the sensitivity to which the sensor will detect motion.
	DAYLIGHT	The lux setting that the light fixture will turn on/off. If the ambient lux is more than the defined lux setting, the fixture & sensor function will turn off and remain off until the ambient lux is below the setting. Long press until the daylight indicator light is on. Then press to select the desired lux setting.
Bottom Section: Button Setting Area	SEND	Uploads the selected remote-control parameters to the light fixture sensor.
	RESET	Resets the light fixture sensor parameters to the default settings.
	- / +	Press to increase or decrease brightness from 0% to 100% at increments of 2%.
	TEST	Press to test the sensor (hold time is 3s).

Note: To switch from motion sensor mode to dimmer mode, long press the ON/OFF button until only the BRIGHTNESS option lights up. If all options light up, long press again. Then use the -/+ buttons to adjust the brightness.

PROGRAMMING INSTRUCTIONS

1. Press the ON/OFF button
2. Select the desired settings
 • Select the brightness level by pressing the BRIGHTNESS button.
 • Select the hold time by pressing the HOLD TIME button.
 • Select the stand-by dim level by pressing the STANDBY DIM button.
 • Select the stand-by time by pressing the STANDBY TIME button.
 • Select the sensor sensitivity by pressing the SENSITVITY button.
 • Optional: If daylight sensor is desired, long press the DAYLIGHT button and then choose the lux setting.
3. Press SEND- the fixture responds by strobing.

RAB

CONTROLLED

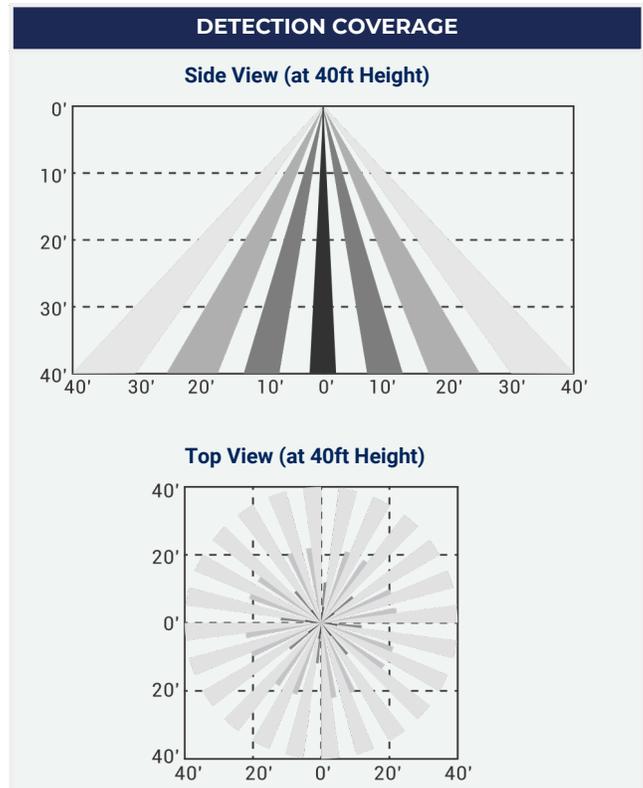## BLUETOOTH PIR MOTION & DAYLIGHT HARVEST SENSOR

FEATURES

- PIR motion and daylight harvest sensor
- Easy wireless plug-and-play installation
- Bluetooth mesh network
- DLC - Networked Lighting Control (NLC) & Luminaire Level Lighting Control (LLLC)

SPECIFICATIONS	
Input Voltage	12VDC
Input Current	50mA Max.
Input Power	0.6W
Output Current	10mA Max. Sinking Current
Output Power	0.1W
Dimming	Class 2, 0-10VDC
Bluetooth Transmit	328ft Max.
Radio Frequency	2.4GHz ±75MHz
Bluetooth Version	5.0
Housing Material	Polycarbonate (UL 94-5VA)
Housing Finish	White
Detection Range	40-80ft
Mounting Height	20-40ft
Indoor/Outdoor Use	Both Indoor & Outdoor Use
Operating Temperature[1]	-30°C to 55°C (-22°F to 131°F)
Storage Temperature	-30°C to 85°C (-22°F to 185°F)
IP Rating	IP66 (Wet Location)
Installation	The audio jack to 3-PIN adaptor is pre-installed on the sensor for quick twist-lock installation[1]

[1]When installed in the fixture, the system's ambient operating temperature is limited by the component with the lowest allowable range.

| DEFAULT SETTINGS	
Motion Sensor	ON
Mode	Occupancy
High End Trim	100%
Sensitivity	High
Hold Time (T1)	20 min
Standby Dim	50%
Standby Time (T2)	1 min
Photocell	Off
Linkage	Off
Linkage Level	100%

Note: Program the sensor with the desired settings using the ControlLED Mobile App (please refer to the ControlLED App manual for instructions).

DETECTION COVERAGE

Side View (at 40ft Height)

Top View (at 40ft Height)

Bluetooth

DLC LISTED

5 YEAR WARRANTY

SPECIFICATIONS & COMMISSIONING

CONTROL**LED**

RAB DESIGN®

ControlLED Network Lighting Controls (NLC) delivers secure, wireless lighting management with Bluetooth Mesh and the ControlLED App. Integrated sensors enable automatic adjustments for comfort, safety, and efficiency.
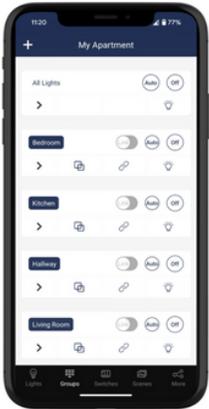
Organized Workspaces: Create Zones, Groups and Group linkages.

Dimming Lights: Set dim level for groups or individual lights.

Motion and Daylight Harvest Sensors: Custom sensor settings for groups or individual lights.

Scenes: Create custom scenes for different scenarios.

Schedules: Create custom schedules for recurring events.

Share Access: Share access using QR codes.

Get the App!

GET IT ON **Google Play**

Download on the **App Store**

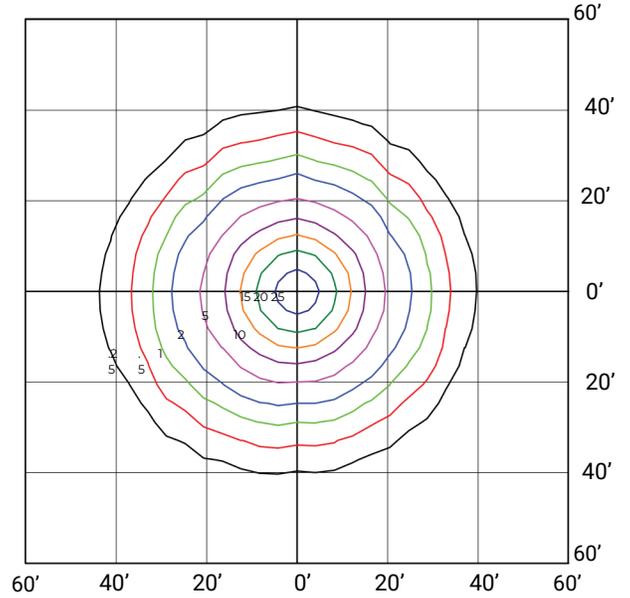**Engineered by skilled hands, for skilled hands.**

RH1S-LED100A60-H-VK-DIM-PCL-FS-N4X- (100W 4K)
MOUNTED AT 15 FEET

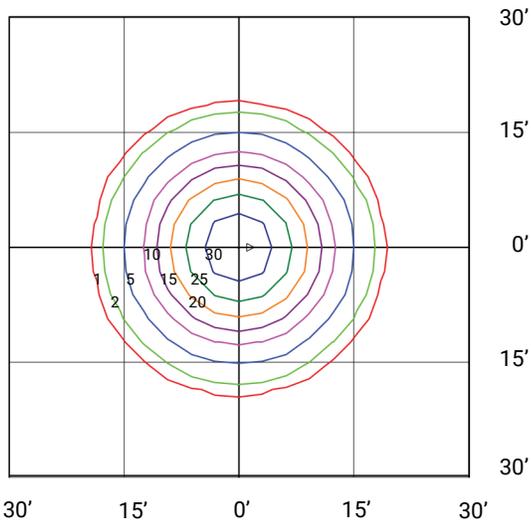Lumens 15056   Maximum Calculated Value 32.26 Fc
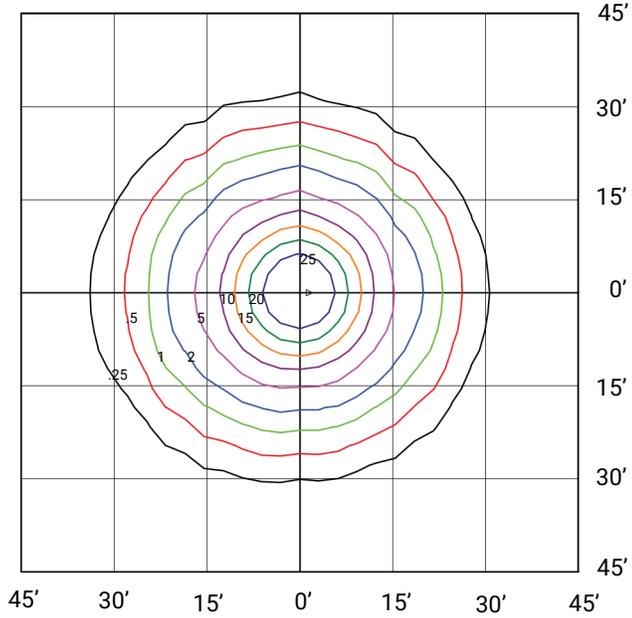
RH1S-LED150A100-H-VK-DIM-PCL-FS-N4X- (150W 4K)
MOUNTED AT 20 FEET

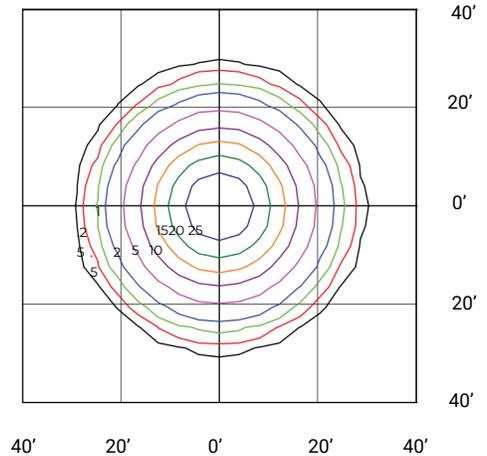Lumens 22996   Maximum Calculated Value 27.74 Fc

RH1S-LED100A60-H-VK-DIM-PCL-FS-N4X-ALUMINUM REFLECTOR (100W 4K)
MOUNTED AT 15 FEET

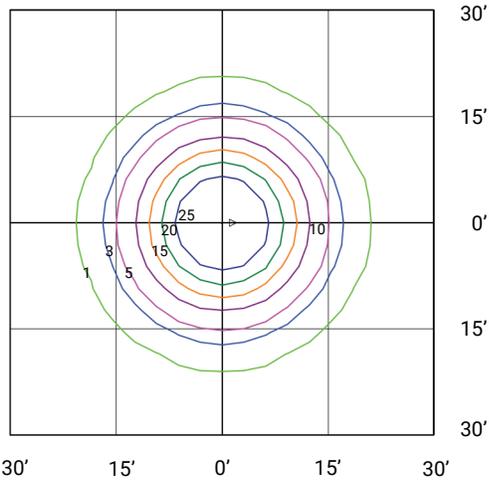Lumens 13696   Maximum Calculated Value 34.08 Fc

RH1S-LED150A100-H-VK-DIM-PCL-FS-N4X- ALUMINUM REFLECTOR (150W 4K)
MOUNTED AT 20 FEET

Lumens 21292   Maximum Calculated Value 29.93 Fc

RAB DESIGN

RH1S-LED100A60-H-VK-DIM-PCL-FS-N4X-POLYCARBONATE REFLECTOR (100W 4K)
MOUNTED AT 15 FEET

Lumens 14218   Maximum Calculated Value 30.97 Fc

RH1S-LED150A100-H-VK-DIM-PCL-FS-N4X-POLYCARBONATE REFLECTOR (150W 4K)
MOUNTED AT 20 FEET

Lumens 22169   Maximum Calculated Value 27.30 Fc