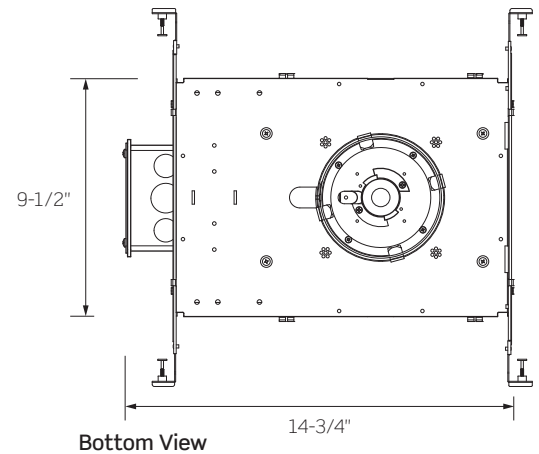
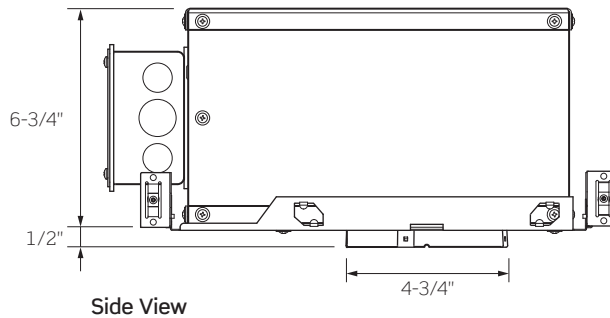


R4IC KB SERIES | 4-Inch Round Insulated Ceiling (IC)/StopAire™ Housing with BIOS SkyBlue™ Technology



**DISCONTINUED ITEM
LIMITED INVENTORY**

Consult factory for availability



SkyBlue™ Technology by BIOS Lighting



cCSAus
Listed



Damp
Location



IC Rated



Air-tight
Certified



ASTM
E283

Ceiling Opening: 4-7/8-Inches

Ceiling Thickness: 1/2- to 1-1/2-Inches

	R4IC1	R4IC2	R4IC3	R4IC4
WATTAGE	12W	15W	21W	30W
LUMEN OUTPUT ¹	700Lm	900Lm	1300Lm	1800Lm
COLOR TEMPERATURE / CRI / R9	3000K / 81 CRI / 90 R9 3500K / 83 CRI / 95 R9 4000K / 83 CRI / 95 R9			
DRIVER INPUT WATTAGE	12W	16W	21W	30W
INPUT CURRENT (A) 120V/277V/347V	.08/.04/.03	.12/.06/.04	.17/.08/.06	.23/.11/.08
INPUT VOLTAGE				
120V – 277V Standard Driver	90–305VAC, 50/60Hz			
347V Standard Driver	347VAC, 50/60Hz			
Lutron Eco-System® Driver	120–277VAC, 50/60Hz			
eldoLED ECOdrive / SOLOdrive	120–277VAC, 50/60Hz			
DRIVER POWER FACTOR	> 0.90			
TOTAL HARMONIC DISTORTION	< 20%			
LISTINGS	cCSAus Certified to UL Standards; Suitable for Damp Locations Conforms to Washington State Energy Code (WSEC) for Low Air Infiltration; tested in accordance with ASTM E283 (2.0 CFM or less)			
WARRANTY	Five (5) year replacement after date of purchase			
SYSTEM RATING	50,000 Hours @ 70% Lumen Maintenance			

1. Approximate lumen output based on 3000K performance; see photometric test results for additional information

R4IC KB SERIES | 4-Inch Round Insulated Ceiling (IC)/StopAire™ Housing with BIOS SkyBlue™ Technology

ORDERING INFORMATION

Example Order: R4IC130KBMVDBT

Housing/LED Series	Color Temp	Electrical/Dimming	BIOS Protocol
R4IC1 12W/ 700Lm R4IC2 15W/ 900Lm R4IC3 21W/1300Lm R4IC4 30W/1800Lm	30KB 3000K 35KB 3500K 40KB 4000K	MVD¹ 120-277V Forward/Reverse Phase/0-10V Dimming 34D2² 347V 0-10V Dimming MVD4³ Lutron Hi-lume 1% EcoSystem Driver with Soft-on, Fade-to-Black MVD6⁴ eldoLED ECOdrive, 0-10V, 1% Dimming MVD7⁴ eldoLED ECOdrive, DALI, 1% Dimming MVD8⁴ eldoLED SOLOdrive, 0-10V, 0.1% Dimming MVD9⁴ eldoLED SOLOdrive, DALI, 0.1% Dimming	BT BIOS Tunable Dimming BS BIOS Static Dimming

1. Forward/Reverse Phase Dimming for 120V only

2. eldoLED Drivers are programmed for Linear Curve Dimming as standard; for Logarithmic Curve Dimming, consult factory

ACCESSORY ORDERING INFORMATION

Mounting Accessories
Standard Hanger Bars Supplied with Housing
HB-30 T-Bar Hanger Set

See “Trims for 4-Inch LED Downlights” Specification Sheet for compatible Trim information and details

PRODUCT SPECIFICATIONS

CONSTRUCTION

- Specification Grade 4-inch Round 16 Gauge Galvanized Steel Insulated Ceiling (IC)/StopAire™ Housing with Die-Cast Aluminum Heat Sink
- For use in applications with direct contact with insulation materials
- Quick-connect Light Engine
- Drivers are fully accessible from below the ceiling and can be easily removed
- Dual Nailer Hanger Bars are adjustable for 16- and 24-inch center joists (14-1/4- to 24-1/2-inch). Nailer Bars may be extended to rest on T-Bar ceilings; optional clip-on T-Bar Hangers available.
- Pre-wired Junction Box with eight (8) 1/2-inch concentric Knockouts
- Output over-voltage, over-current and short circuit protection
- Approved for Through Circuit Wiring: max. eight (8) 12 AWG (4in/4out), wiring rated to 90°C

PERFORMANCE SUMMARY

- All R4 Downlights are available for non-dimming and dimming applications; for compatible Dimmers, refer to the Dimming Specification Sheet
- Flanged or Trimless Specification Grade Trims in several different styles and finishes available
- Trimless options require use of a Mud Frame (MF4, ordered separately) for securing housing and trim in 1/2- to 1-inch ceiling thicknesses only
- Trimless options cannot be used on Remodel Style Housings (R4RM) or with RSA4L Slope Ceiling Adapters
- UL8750 and Class 2 Compliant; RoHS Compliant, US only

R4IC KB SERIES | 4-Inch Round Insulated Ceiling (IC)/StopAire™ Housing with BIOS SkyBlue™ Technology

BIOS SKYBLUE LED TECHNOLOGY

- BIOS SkyBlue™ Circadian Lighting Technology brings the benefits of blue skies inside by emulating the makeup of nature's light spectrum
- Light sends signals to the body that create biological responses, many associated with the body's circadian system
- These responses impact mood, hormone production, energy levels, alertness, fatigue and more
- This biological response to light can be measured by the melanopic (non-visual) to photopic (visible) ratio called the M/P ratio: during the day, a high M/P ratio is optimal, while at night a low M/P ratio is best
- BIOS LEDs provide high daytime stimulus by pin-pointing the peak sensitivity of the "sky blue" visible light spectrum wavelengths, approximately 490nm, needed to effectively communicate and trigger circadian response

			MELANOPIC RATIO (M/P) ¹	
CCT	CRI	R9	DAY	NIGHT ²
3000K	81	90	0.74	0.47
3500K	83	95	0.83	0.47
4000K	83	95	0.92	0.47

1. The Melanopic Ratios (M/P) provided have been calculated using the WELL v2 Methodology

2. 2700K CCT with SkyBlue (490nm) removed during Nighttime. Available only for Tunable BioDimming™, not available for Static BioDimming™

BIOS BIO-DIMMING™

The BIOS Bio-Dimming Modules deliver a completely customizable and spectrally-modulated light source. Two Modules are available, Tunable or Static, depending on desired performance, and can be used with any standard dimming interface.

Tunable Bio-Dimming™ is best suited for 24-hour facilities or evening applications, where full light output is desired as the day progresses, but also there is also the need to minimize circadian impact in the evening.

When dimming, the sky blue wavelengths are removed first, resulting in a modest color temperature shift to 2700K.

This occurs within the first 20% of the dimming profile, the remainder of the dimming profile reduces light output, providing a standard linear reduction of the sky blue depleted spectrum.

TUNABLE BIO-DIMMING PROTOCOL			
DIMMER LEVEL	CCT	SKYBLUE %	LIGHT OUTPUT
100%	Initial CCT 3000K/3500K/4000K	100%	100%
99% - 81%	Gradual Shift down to 2700K	100% - 0%	100%
80%	2700K	0% No SkyBlue Wavelengths	100%
79% - 0%	2700K	0% No SkyBlue Wavelengths	Linear Dimming

Static Bio-Dimming™ supports proper daytime circadian stimulus, best suited for day-only applications.

A steady, invisible, sky blue signal boost to white light is delivered throughout the day for high daytime circadian stimulus.

When dimming, these sky blue wavelengths remain as overall light intensity is dimmed down.

STATIC BIO-DIMMING PROTOCOL			
DIMMER LEVEL	CCT	SKYBLUE %	LIGHT OUTPUT
100%	Initial CCT 3000K/3500K/4000K	100%	100%
99% - 0%	Initial CCT 3000K/3500K/4000K	100%	Linear Dimming

R4 SERIES | Trims for 4-Inch Downlights with BIOS SkyBlue™ Technology

TRIMMED OPTIONS



C4321-WHT-PL

C4321 Series: Cone Series

Two Piece Reflector with Lower Cone



Suitable for
Wet Locations
with Lens

- 3-7/8-Inch ID, 5-11/16-Inch OD, 3-1/8-Inch Height
- Two Piece Reflector: Upper Reflector with Lower Cone
- Includes one (1) LF20-CL Clear Glass Lens
- Approved for Wet Locations when Glass Lens is installed

Trim	
C4321-CLR-CLR	Clear Reflector/Clear Lower Cone
C4321-CLR-PL	Clear Reflector/Platinum Lower Cone
C4321-WHT-CLR	White Reflector/Clear Lower Cone
C4321-WHT-PL	White Reflector/Platinum Lower Cone



C4321-WHT-B

C4321 Series: Baffle Series

Two Piece Reflector with Lower Baffle



Suitable for
Wet Locations
with Lens

- 3-7/8-Inch ID, 5-11/16-Inch OD, 3-1/8-Inch Height
- Two Piece Reflector: Upper Reflector with Lower Baffle
- Includes one (1) LF20-CL Clear Glass Lens
- Approved for Wet Locations when Glass Lens is installed

Trim	
C4321-CLR-B	Clear Reflector/Black Lower Baffle
C4321-CLR-P	Clear Reflector/White Lower Baffle
C4321-WHT-B	White Reflector/Black Lower Baffle
C4321-WHT-P	White Reflector/White Lower Baffle



C4327-CLR-PL

C4321 Series: Cone Series

Two Piece Reflector with Lower Cone and Prismatic Convex Lens



Suitable for
Wet Locations

- 3-7/8-Inch ID, 5-11/16-Inch OD, 3-1/8-Inch Height
- Two Piece Reflector: Upper Reflector with Lower Cone and Prismatic Convex Lens
- Lens has 1-1/2-inch regress
- Approved for Wet Locations

Trim	
C4327-CLR-CLR	Clear Reflector/Clear Lower Cone
C4327-CLR-PL	Clear Reflector/Platinum Lower Cone
C4327-WHT-CLR	White Reflector/Clear Lower Cone
C4327-WHT-PL	White Reflector/Platinum Lower Cone



C4327-CLR-P

C4327 Series: Baffle Series

Two Piece Reflector with Lower Baffle and Prismatic Convex Lens



Suitable for
Wet Locations

- 3-7/8-Inch ID, 5-11/16-Inch OD, 3-1/8-Inch Height
- Two Piece Reflector: Upper Reflector with Lower Baffle and Regressed Prismatic Convex Lens
- Lens has 1-1/2-inch regress
- Approved for Wet Locations

Trim	
C4327-CLR-B	Clear Reflector/Black Lower Baffle
C4327-CLR-P	Clear Reflector/White Lower Baffle
C4327-WHT-B	White Reflector/Black Lower Baffle
C4327-WHT-P	White Reflector/White Lower Baffle

R4 SERIES | Trims for 4-Inch Downlights with BIOS SkyBlue™ Technology

TRIMMED OPTIONS



C4322-CLR

C4322 Series: Specification Grade Reflector



Suitable for
Wet Locations
with Lens

- 4-3/8-Inch ID, 5-11/16-Inch OD, 3-1/8-Inch Height
- For Wet Location approved trim, add "-C" for Clear Lens or "-SL" for Sandblast Lens after finish code
- White Painted Flange available for -CLR and -PL finish trims; add "-WPF" to the end of the part number

Trim

C4322N-CLR¹	35° Narrow Beam Clear Specular Reflector
C4322M-CLR¹	51° Medium Beam Clear Specular Reflector
C4322W-CLR¹	80° Wide Beam Clear Specular Reflector
C4322-PL¹	59° Platinum Reflector
C4322-PLWHE	59° Platinum Wheat Reflector
C4322-WHT	70° White Reflector

1. Finish available with White Painted Flange; add "-WPF" to end of part number



C4323-CLR

C4323 Series: Lensed Wall Wash Reflector

- 4-Inch ID; 5-11/16-Inch OD

Trim

C4323-CLR¹	Clear Reflector
C4323-PL¹	Platinum Reflector
C4323-WHT	White Reflector

1. Finish available with White Painted Flange; add "-WPF" to end of part number



C4322DF-SL

C4322DF Series: ISOWET Dead Front Reflector



Suitable for
Wet Locations

- 4-3/8-Inch ID, 5-11/16-Inch OD, 3-1/8-Inch Height
- Isolated, Wet Location approved Thermoplastic Reflector
- Clear Glass Lens deeply regressed inside top of Reflector

Trim

C4322DF-SL¹	Satin Silver Painted Dead Front Reflector
C4322DF-WHT	Matte White Painted Dead Front Reflector

1. Finish available with White Painted Flange; add "-WPF" to end of part number



CTR4325L-WHT-P

CTR4325L Series: Reflector with Floating Glass Disc

- 4-3/8-Inch ID, 6-Inch OD, 1-1/4-inch drop from ceiling
- White Reflector with Floating Glass Disc

Trim

CTR4325L-WHT-P	White Reflector with Floating Glass Disc
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CTR4326L-CLR-P

CTR4326L Series: Reflector with Floating Glass Ring

- 4-3/8-Inch ID, 6-Inch OD, 1-1/4-inch drop from ceiling
- Clear Reflector with Floating Glass Ring
- 3-1/2-inch Center Hole

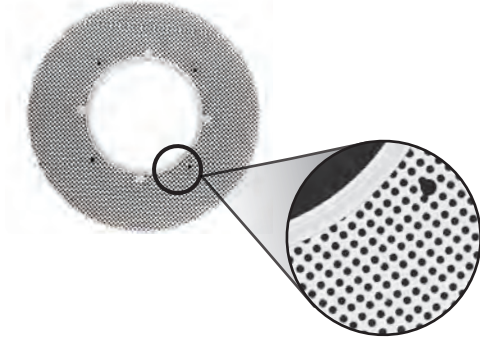
Trim

CTR4326L-CLR-P	Clear Reflector with Floating Glass Ring
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R4 SERIES | Trims for 4-Inch Downlights with BIOS SkyBlue™ Technology

MUD FRAME

NOTE: The Mud Frame is required for trimless applications



Mud Frame

- Die-cast ring with steel mesh frame, painted white
- 10-Inch Outer Diameter
- Required for trimless applications

Mud Frame
MF4

ROUND TRIMLESS OPTIONS



CN4322 Series

Specification Grade Trimless Reflector



Suitable for
Wet Locations
with Lens

- 4-3/8-Inch ID, 4-3/4-Inch OD, 4-3/8-Inch Height
- For Wet Location approved trim, add “-C” for Clear Lens or “-SL” for Sandblast Lens after finish code
- For use with 1/2- to 1-inch ceiling thicknesses only
- **Trim cannot be used on Remodel Housings (R4RM) or with Slope Ceiling Adapters (RSA4L)**

Trim	
CN4322N-CLR	35° Narrow Beam Clear Reflector
CN4322M-CLR	51° Medium Beam Clear Reflector
CN4322W-CLR	80° Wide Beam Clear Reflector
CN4322-PL	59° Platinum Reflector
CN4322-WHT	70° White Reflector

Lens Options	
	No Lens, Leave Blank
C	Clear
SL	Sandblast



CN4323 Series

Trimless Wall Wash Reflector with Lens

- 4-Inch ID, 4-3/4-Inch OD
- For use with 1/2- to 1-inch ceiling thicknesses only
- **Trim cannot be used on Remodel Housings (R4RM) or with Slope Ceiling Adapters (RSA4L)**

Trim	
CN4323-CLR	Clear Reflector
CN4323-PL	Platinum Reflector
CN4323-WHT	White Reflector

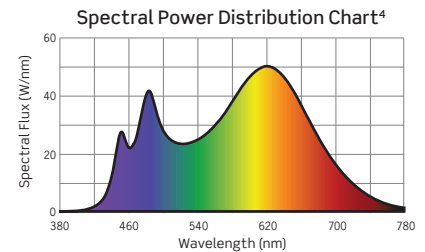
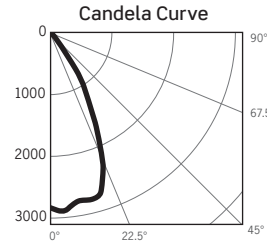
R4 SERIES | 4-In. Downlights with BIOS SkyBlue™ Technology Photometrics

R4NC535KB12DBS / C4322M-CLR: 3500K, CLEAR REFLECTOR, MEDIUM BEAM

LM-63 Test No. G21092801; LM-79 Test No. S21093002

Fixture Delivered Lumens: 2240.8
Total Watts@120V: 38.5
Lumens Per Watt: 58.2
Center Beam Candle Power: 2841
Beam Distribution: 54.7°
Spacing Criterion: 0.84
Color Rendering Index (CRI)¹: 84.8
Color Temperature (CCT)²: 3241K
Peak Sensitivity: 490nm
R9 Value: 93.2
Designed for 50,000 Hour Lamp Life³

Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIA. (FT.)
6 FT	78.9	6.2
8 FT	44.4	8.3
10 FT	28.4	10.3
12 FT	19.7	12.4
14 FT	14.5	14.5
16 FT	11.1	16.5

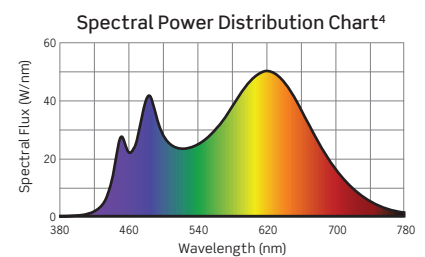
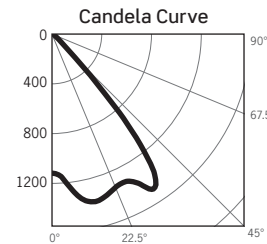


R4NC535KB12DBS / C4322W-CLR: 3500K, CLEAR REFLECTOR, WIDE BEAM

LM-63 Test No. G21070602; LM-79 Test No. S21093002

Fixture Delivered Lumens: 2259.6
Total Watts@120V: 38.5
Lumens Per Watt: 58.7
Center Beam Candle Power: 1118
Beam Distribution: 82.0°
Spacing Criterion: 1.25
Color Rendering Index (CRI)¹: 84.8
Color Temperature (CCT)²: 3241K
Peak Sensitivity: 490nm
R9 Value: 93.2
Designed for 50,000 Hour Lamp Life³

Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIA. (FT.)
6 FT	31.1	10.4
8 FT	17.5	13.9
10 FT	11.2	17.4
12 FT	7.8	20.9
14 FT	5.7	24.3
16 FT	4.4	27.8

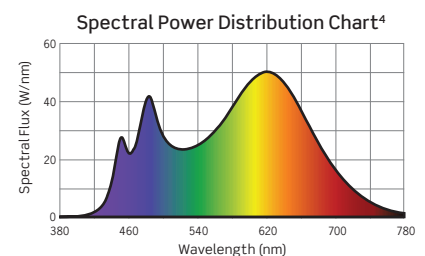
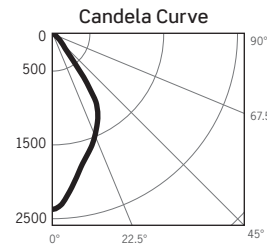


R4NC535KB12DBS / C4322-PL: 3500K, PLATINUM REFLECTOR, MEDIUM BEAM

LM-63 Test No. G21070601; LM-79 Test No. S21093002

Fixture Delivered Lumens: 2006.3
Total Watts@120V: 38.5
Lumens Per Watt: 52.1
Center Beam Candle Power: 2371
Beam Distribution: 62.1°
Spacing Criterion: 0.92
Color Rendering Index (CRI)¹: 84.8
Color Temperature (CCT)²: 3241K
Peak Sensitivity: 490nm
R9 Value: 93.2
Designed for 50,000 Hour Lamp Life³

Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIA. (FT.)
6 FT	65.8	7.2
8 FT	37.0	9.6
10 FT	23.7	12.0
12 FT	16.5	14.4
14 FT	12.1	16.8
16 FT	9.3	19.2



1. Accuracy of Rendering Colors 2. Color Appearance of Light Source 3. Dependent on Surrounding Temperatures 4. Colors Present within the Light Source

PHOTOMETRIC MULTIPLICATION FACTORS

Lumen output values fluctuate based on Color Temperature, Luminaire Wattage/Output and Trim Selection. To estimate lumen output of the various CCT/CRI options, multiply 3000K (80 CRI min) results by the following:

CCT MULTIPLIERS	
CCT	STANDARD CRI
3000K	0.95
3500K	1.00
4000K	1.05

OUTPUT MULTIPLIERS			
12W/SERIES 1	15W/SERIES 2	21W/SERIES 3	30W/SERIES 4
0.31	0.43	0.61	0.81

TRIM MULTIPLIERS			
C4322-PL	C4322-WHT	C4322DF-SL	C4323-CLR
0.90	0.92	0.67	0.51

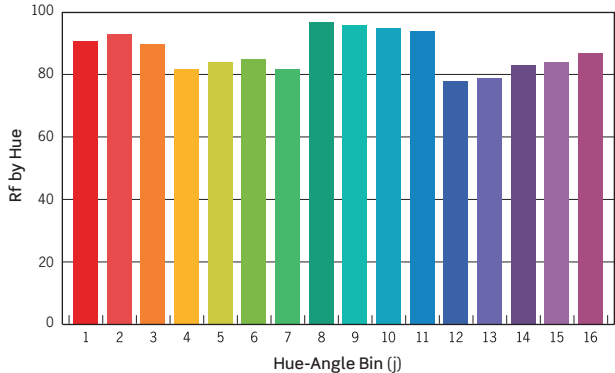
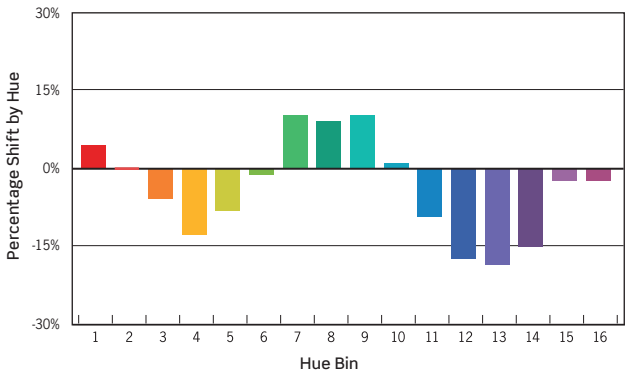
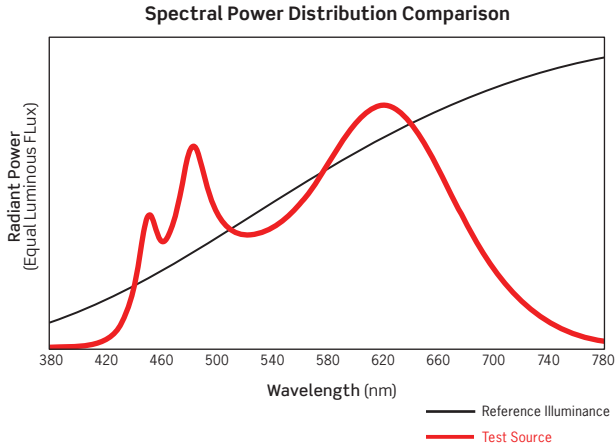
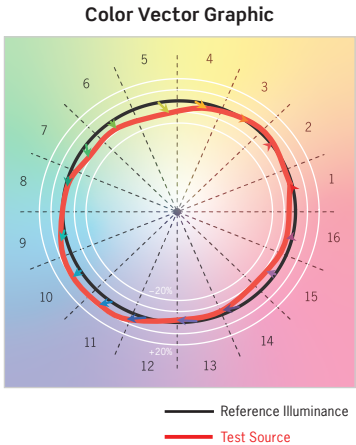
R4 SERIES

| 4-In. Downlights with BIOS SkyBlue™ Technology Photometrics

TM-30 DATA: R4NC535KB12DBS / C4322M-CLR

ANSI/IES TM-30-18 Color Rendition Report Test No. S21012801

R_f	86
R_g	96
CCT(K)	3241K
D_{uv}	-0.0098
u'	0.2468
v'	0.5032



HUE BIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HUE SHIFT	-4%	0%	-5%	-11%	-7%	-1%	9%	8%	9%	1%	-8%	-15%	-16%	-13%	-2%	-2%
R _f VALUE	91	93	90	82	84	85	82	87	86	85	84	78	79	83	84	87

Colors are for visual orientation purposes only

R4 KB SERIES | 4-Inch Round Downlights with BIOS SkyBlue™ Technology: Dimming Specifications

Manufacturer	Product	Model	PHASE/0-10V DIMMING (D, D2, or MVD Option*)	eldoLED ECOdrive 0-10V (D6, D8, MVD6, or MVD8 Option)	eldoLED SOLOdrive 0-10V (D7, D9, MVD7, or MVD9 Option)
			Light Output	Light Output	Light Output
Leviton	IllumaTech	IPI06-1LZ	1%-100%	NA	NA
Leviton	SureSlide	6631-2	1%-100%	NA	NA
Leviton	Vizia	VPE06	9%-100%	NA	NA
Leviton	Trimatron	6683-IW	6%-100%	NA	NA
Leviton	Decora	6161	15%-100%	NA	NA
Leviton	SureSlide	6633-P	1%-100%	NA	NA
Leviton	IllumaTech	IPE04	6%-100%	NA	NA
Leviton	IllumaTech	IP710-DLX	NA	1%-100%	0.1%-100%
Cooper	Devine	DLC03P	1%-100%	NA	NA
Cooper	Skye	SLC03P	0%-100%	NA	NA
Cooper	Decorator	DAL06P	0%-100%	NA	NA
Pass & Seymour	Titan	CD4FB-W	NA	1%-100%	0.1%-100%
Synergy		ISD BC	NA	1%-100%	0.1%-100%
Watt Stopper	Miro Decorator	DCLV1	NA	1%-100%	0.1%-100%
Lutron	Ariadni	TGCL-153P	1%-100%	NA	NA
Lutron	Ariadni	TG-600P	13%-100%	NA	NA
Lutron	Diva	DVCL-153P	1%-100%	NA	NA
Lutron	Diva	DV600P	6%-100%	NA	NA
Lutron	Diva	DVELV303P	6%-100%	NA	NA
Lutron	Diva	DVTV	NA	1%-100%	0.1%-100%
Lutron	Faedra	FAELV500	12%-100%	NA	NA
Lutron	Lumea	LG600P	8%-100%	NA	NA
Lutron	Maestro	MAELV600	16%-100%	NA	NA
Lutron	Nova	NFTV	NA	1%-100%	0.1%-100%
Lutron	Nova T	NTFTV	NA	1%-100%	0.1%-100%
Lutron	Skylark	S-603PG	5%-96%	NA	NA
Lutron	Skylark	S600P	5%-100%	NA	NA
Lutron	Skylark	SELV300P	10%-100%	NA	NA
Lutron	Skylark	CT103P	9%-100%	NA	NA

*277V Phase Dimming is not available

PHASE DIMMING

- Incandescent 120V AC Dimmers adjust the light with *Forward Phase Control*, where the Dimmer “chops” the forward part of the AC Wave to deliver less or more power to the light source. No Neutral Wire Connection required.
- Electronic Low Voltage 120V AC Dimmers adjust the light with *Reverse Phase Control*, where the Dimmer “chops” the back part of the AC Wave to deliver less or more power to the light source. Neutral Wire Connection required.

0-10V DIMMING

- 0–10V DC Low Voltage Dimmers operate using two (2) Low Voltage Dimming Wires that are separate from the 120V or 277V AC Power. The Dimmer sends a Variable Output Voltage to the luminaire based upon the dimming level. 10V Corresponds to undimmed operation, 5V to 50% and so on. Switching On/Off is controlled with the Line Voltage Power Input to the Dimmer (120V or 277V AC). Dimming operation is controlled with the 0–10V DC Low Voltage Wiring Connection between the Dimmer and the LED Driver. The Control Signal runs on two (2) low voltage control wires color coded Violet and Pink/Gray.

EcoSystem/ECOdrive DIMMING

- Lutron EcoSystem Drivers provide continuous dimming from 1%–100%. For a complete list of compatible Dimmers and Controls, visit www.lutron.com
- Use DALI approved Controls for dimming eldoLED ECOdrive, 1% Dimming (Dimming Option D7 or MVD7) and eldoLED SOLOdrive, 0.1% Dimming (Dimming Option D9 or MVD9).

NOTES

- Testing was performed with a single luminaire connected to Dimmer.
- Testing has been performed on these Dimmers, but this does not imply any warranty of compatibility.
- Dimming performance can be influenced by different Loads, as well as variations in Dimmer Switches within the same Model.
- Dimmer Maximum Load Rating with LED may differ from published Traditional Source Dimmer Ratings. Consult manufacturer for maximum Dimmer information.
- Consult factory for additional dimming information.