HAVELLS

CLEAN ROOM LUMINAIRE

LED

Introduction of

Havells

Havells India Limited is a leading Fast Moving Electrical Goods (FMEG) Company and a major power distribution equipment manufacturer with a strong global presence. Havells enjoys enviable market dominance across a wide spectrum of products, including Industrial & Domestic Circuit Protection Devices, Cables & Wires, Motors, Fans, Modular Switches, Home Appliances, Air Conditioners, Electric Water Heaters, Power Capacitors, CFL Lamps, Luminaires for Domestic, Commercial and Industrial Applications.

Today, Havells owns some of the most prestigious brands like Havells, Lloyd, Crabtree, Standard and Promptec. Its network constitutes of 4000 professionals, over 7575 dealers and 40 branches in the country. Our products are available in 40 countries. The company has twelve state-of-the-art manufacturing plants in India located at Haridwar, Baddi, Sahibabad, Faridabad, Assam, Alwar and Neemrana, manufacturing globally acclaimed products, synonymous with excellence and precision in the electrical industry.

The company pioneered the concept of exclusive brand showroom in the electrical industry with 'Havells Galaxy'. Today over 415 Havells Galaxies across the country are helping customers, both domestic and commercial, to choose from a wide variety of products for different applications. Havells became the first FMEG Company to offer door step service via its initiative 'Havells Connect'. Thanks to the quality of products and quicker service, it has minimum customer complaints and highest customer satisfaction.

Today, Havells alongwith its brands, have earned the distinction of being the preferred choice of electrical products for discerning individuals and industrial consumers both in India and abroad. Havells offers same quality products for both Indian and International markets. It is committed to keep powering the world with its state-of-the-art innovations and energy-efficient solutions. Currently over 90% of its product offerings are energy efficient and manufactured in-house.

Social and environmental responsibility has been at the forefront of Havells Operating Philosophy and as a result the company consistently contributes to socially responsible activities. For instance, the company is providing mid-day meal in government schools in Alwar district, covering more than 57000 students per day. The group company, QRG Healthcare runs a 140 bed hospital in Faridabad. In the past, the company has generously contributed to the society during various national calamities like the Bihar Flood, Tsunami and Kargil National Relief Fund, etc.

The essence of Havells' success lies in the expertise of its fine team of professionals, strong relationships with associates and the ability to adapt quickly & efficiently, coupled with the vision to always think ahead.

Havells State of the art Luminaire Plant, Neemrana

Neemrana Lighting Plant

Advanced technology bending machine

Italian Robotised Box Bending Machines

Assembly Section

Havells lighting plant in Neemrana is spread over 30 acres of land with over 2,00,000 square feet of working space under a single roof. The plant has been made keeping in mind the global markets of Europe, US and the Middle East. Setting new benchmarks in the industry, this Havells plant will help bridge the technological divide between Europe and India when it comes to manufacturing high-end lighting luminaries.

Japanese flexible CNC controlled steel fabrication process for the accuracy in sheet punching & bending Italian robotised box bending machines to design complex enclosure shapes without human intervention Automated powder coating paint shop to minimize wastage & fast colour change Eco-friendly zero discharge plant Parabolic rolling machine for replicating complex and accurate forms and shapes Flexible assembly line Modern laboratories

INDEX

CLEAN ROOM LUMINAIRE

LED CLEAN ROOM TOP OPENING

LED CLEAN ROOM BOTTOM OPENING

PRODUCT CODE

PRODUCT NAME	TYPE	MOUNTING	WATTAGE	LED	Code of Colour Temp. (CCT)
	PL-Panel	R-Recessed	XXX W	LED	830
	DL-Downlight	P-Pendant			840
	TS-Track Spot	S-Surface			857
	L-Linear	P/S-Pendant or Surface			865
	RD-Round				730
	B-Batten				740
	TL-Tube Light				757
	LM-Lampmodule				760
	PT-Post Top				TW-Tunable White
	BL-Bollards				
	FT-Foot Light				
	FL-Flood Light				
	WG-Well Glass				
	IL-Ind. Linear				
	HB-Highbay				
	CA-Canopy				
	SL-Street light				
	CR-Clean Room				

8 30 → 80 CRI / 3000 K   **7 40** → 70 CRI / 4000 K

EXAMPLES:

PRODUCT NAME	TYPE	MOUNTING	WATTAGE	LED	CCT
BAYBRITESAUCERHBP200WLED757WBTOLTG					
BAYBRITESAUCER	HB	P	200 W	LED	757
ENDURAPEARLSL15WLED757SASYTOPC					
ENDURAPEARL	SL	-	15 W	LED	757
VENUSNEOHE2X2PLR18-42WLED857MOD					
VENUSNEOHE2X2	PL	R	34 W	LED	857

NOMENCLATURE

DRIVER	BEAM	DRIVER COMPARTMENT	TYPE OF DIFFUSER	FINISH
S-Standard	Asy-Asymmetric	TO-Top Opening	Lens	BLK
D-Dali	Sym-Symmetric	BO-Botten Opening	PC-Polycarbonate	WHT / WH
A-Analog	WB-Wide Beam	CG Box	PS-Polystyrene	SS
P-Potted Driver	NB-Nerrow Beam		TG-Toughened glass	MS
MOD-Lamp Module	24D-24 Degree		PMMA	GRY
	38D-38 Degree		LTG- Lens Toughened glass	
	40D-40 Degree		Glass	
	45D-45 Degree			
	60D-60 Degree			
	90D-90 Degree			
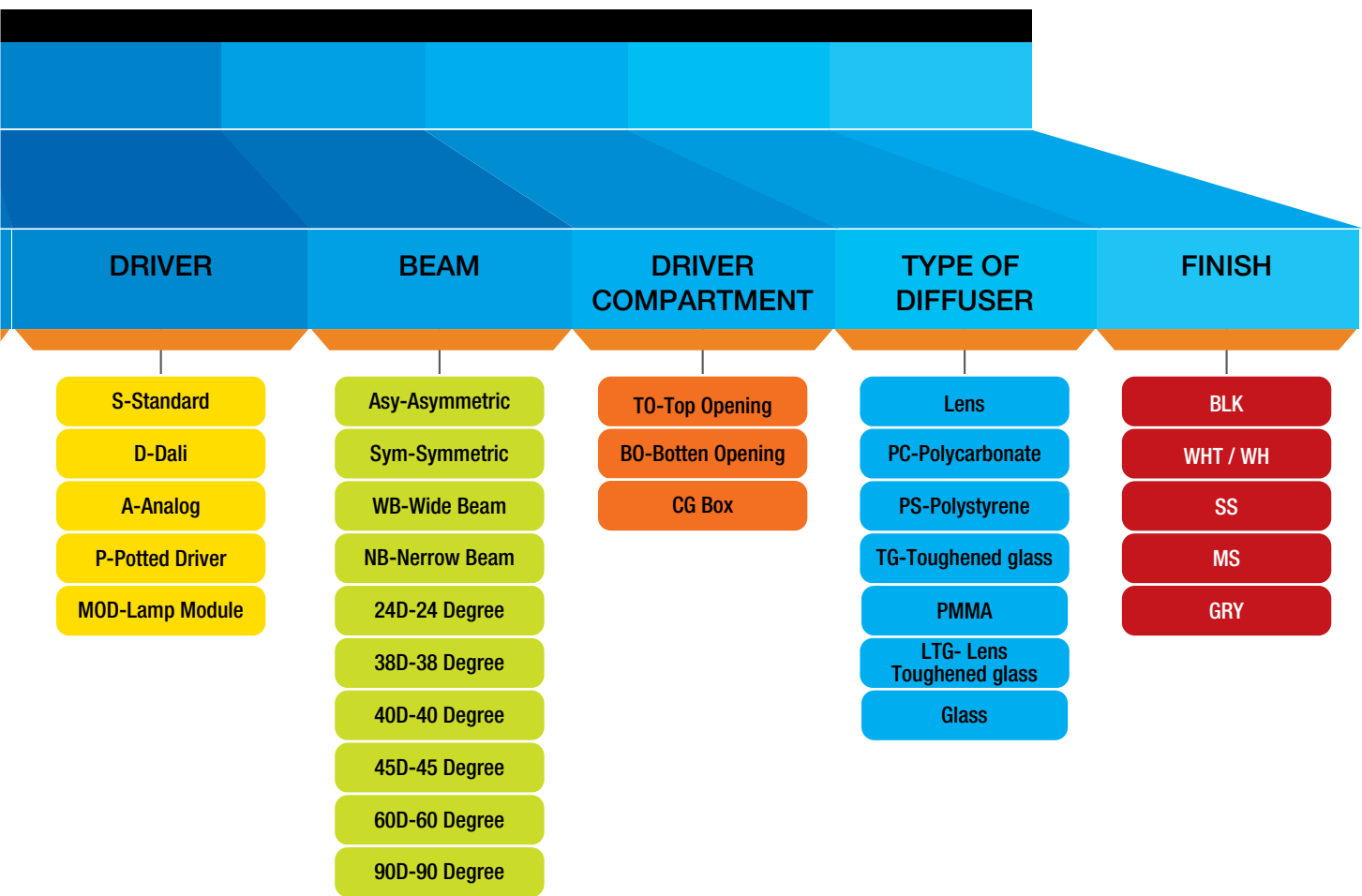
DRIVER	BEAM	DRIVER COMPARTMENT	TYPE OF DIFFUSER	FINISH
-	WB	TO	LTG	-
S	ASY	TO	PC	-
S	-	-	-	-

LED TOCR 2X2 42 W TUNABLE WHITE

IP65, dust free & zero maintenance LED Clean Room Top Opening luminaire with Dimming option for hygenic facilities.

Note: IP 65 after proper installation

Features & Benefits

- Human centric should not be used as we are promoting this as tune-able CCT luminaire
- Provides improved productivity, better moods and overall happier workplaces.
- Controlled by App (Bluetooth connectivity).
- Offers unprecedented control over your interior environment.
- Offers visually comfortable environment
- Optional pre-set color temperatures or adjust to any CCT in the Productivity Range 3000 K - 5700 K
- Dimming Range 10%-100%
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance

- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to + 45° C
- Operating voltage range: 140 V - 270 V
- Average life L70B50: 50000 hours

Housing

CRCA powder coated white after phosphochromate treatment provided as standard.

Light source

High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Diffuser

High quality polycarbonate opal diffuser for glare free uniform light distribution.

Electronic driver

Powered by an Integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting

Provision for recess mounting through 4nos. recessed mounting clamps.

Wiring diagram-refer installation instruction.

APPLICATIONS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor processing
- Food & beverage industry
- Hospital & veterinary premises

Green **LED** | **42 W** | Life **50000** hours | **High**Efficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
TOCR2X2R42 WTUNABLEWHITELED3K-5.7KDPCMS	42 W	240	0.185	≥0.90	3820	5700 K	≥90

*at full load
Driver code: 1-10V ANALOG DIMMABLE Driver (BIS approved) : LSSCRX1795 - 2 nos

Bluetooth 1-10V Convertor 2CH required- LSSCRX2314
(to be ordered seperately)

App : **"Havells Smart App"** available on Play store /IOS store for Android/ IOS users.

TECHNICAL DRAWING
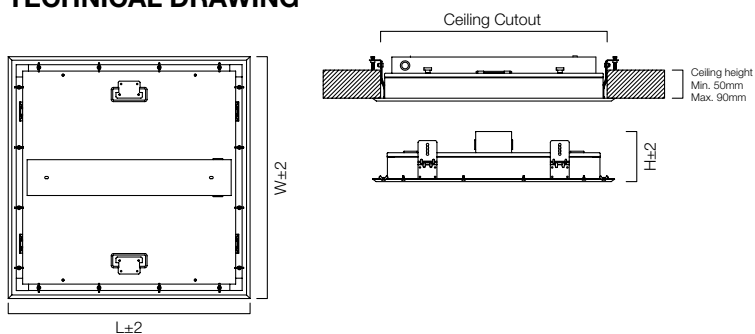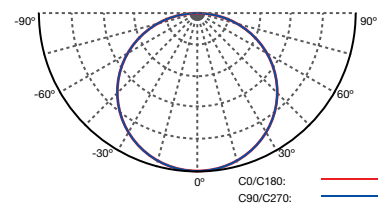
Ceiling Cutout

Ceiling height Min. 50mm Max. 90mm

W±2

H±2

L±2

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
42 W	640	640	135	600 x 600

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0074	Walkable Tray 2x2 for TOCR	740 x 740

LED CLEAN ROOM
BOTTOM OPENING 1X1

IP65, dust free & zero maintenance LED
Clean Room Bottom Opening luminaire
for hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits
- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature:-10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life L70B50: 50000 hours

Housing
CRCA powder coated white after hosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

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Green **LED** | **18 W** | *Life* **50000** hours | **High**Efficiency
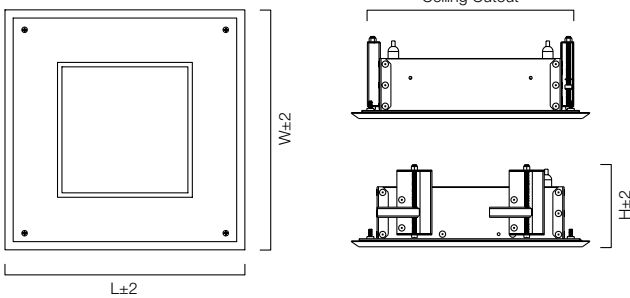
TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
BOCR1X1R18WLED857SPCMS	18 W	240	0.080	≥0.90	1260	5700 K	≥70
BOCR1X1R18WLED857SPCSS*	18 W	240	0.080	≥0.90	1260	5700 K	≥70

Driver code: LSSCRX1837

*SS top frame available on request.

TECHNICAL DRAWING
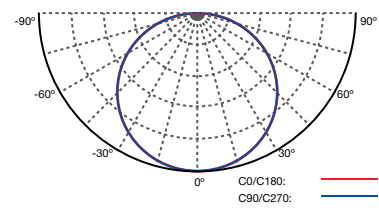
Ceiling Cutout

W±2

H±2

L±2

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
18 W	340	340	117	300 x 300

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0071	Walkable Tray 1x1 for TOCR	440 x 440

LED CLEAN ROOM
BOTTOM OPENING 2X2

IP65, dust free & zero maintenance LED
Clean Room Bottom Opening luminaire
for hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits
- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life L70B50: 50000 hours

Housing
CRCA powder coated white after hosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

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APPLICATIONS

- Pharmaceutical industries
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industries
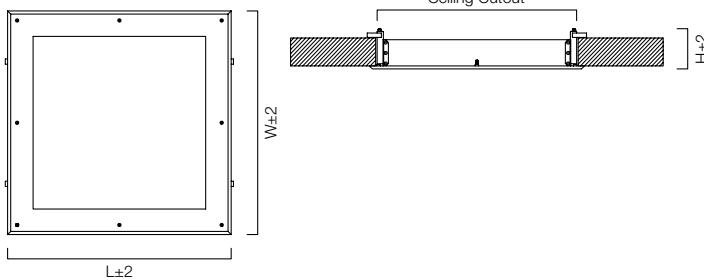- Hospital & veterinary premises

Green **LED** │ **34 W / 42 W / 60 W / 80 W** │ Life **50000** hours │ **High**Efficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
BOCR2X2R34WLED857SPCMS	34 W	240	0.150	≥0.90	3200	5700 K	≥94
BOCR2X2R42WLED857SPCMS	42 W	240	0.185	≥0.90	3990	5700 K	≥95
BOCR2X2R60WLED857SPCMS	60 W	240	0.270	≥0.90	5280	5700 K	≥88
BOCR2X2R80WLED857SPCMS	80 W	240	0.350	≥0.90	7020	5700 K	≥87
BOCR2X2R34WLED857SPCSS*	34 W	240	0.150	≥0.90	3200	5700 K	≥94
BOCR2X2R42WLED857SPCSS*	42 W	240	0.185	≥0.90	3990	5700 K	≥95
BOCR2X2R60WLED857SPCSS*	60 W	240	0.270	≥0.90	5280	5700 K	≥88
BOCR2X2R80WLED857SPCSS*	80 W	240	0.350	≥0.90	7020	5700 K	≥87

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W, LSSCRX1789, LSSCRX2118 for 60 W, LSSCRX1791 for 80 W.
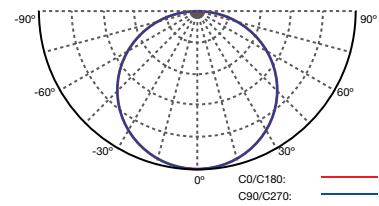
TECHNICAL DRAWING

Ceiling Cutout

W±2

H±2

L±2

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	640	640	115	600 x 600
42 W	640	640	115	600 x 600
60 W	640	640	115	600 x 600
80 W	640	640	115	600 x 600

All dimensions are in mm   │   Tolerance: ± 5 mm

POLAR PLOT

-90°   90°
-60°   60°
-30°   30°
0°   C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0074	Walkable Tray 2x2 for TOCR	740 x 740

LED CLEAN ROOM
BOTTOM OPENING 4X1

IP65, dust free & zero maintenance
4x1 LED Clean Room Bottom Opening
luminaire for hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits
- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after hosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

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APPLICATIONS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
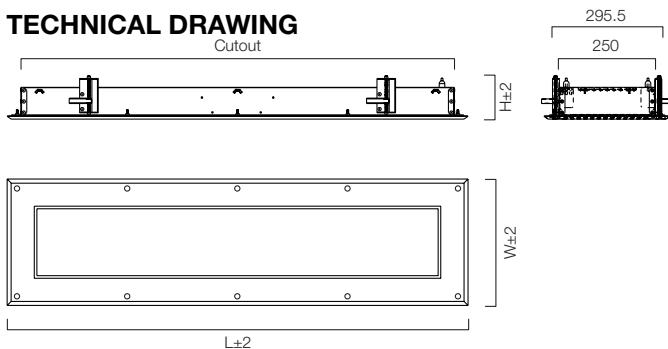- Food & beverage industry
- Hospital & veterinary premises

## Green LED | 34 W / 42 W / 60 W / 80 W | Life 50000 hours | HighEfficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
BOCR4X1R34WLED857SPCMS	34 W	240	0.150	≥0.90	3200	5700 K	≥94
BOCR4X1R42WLED857SPCMS	42 W	240	0.185	≥0.90	3600	5700 K	≥85
BOCR4X1R60WLED857SPCMS	60 W	240	0.270	≥0.90	5400	5700 K	≥90
BOCR4X1R80WLED857SPCMS	80 W	240	0.350	≥0.90	6600	5700 K	≥82
BOCR2X1R34WLED857SPCSS*	34 W	240	0.150	≥0.90	3200	5700 K	≥94
BOCR2X1R42WLED857SPCSS*	42 W	240	0.185	≥0.90	3600	5700 K	≥85
BOCR4X1R34WLED857SPCSS*	60 W	240	0.270	≥0.90	5400	5700 K	≥90
BOCR4X1R42WLED857SPCSS*	80 W	240	0.350	≥0.90	6600	5700 K	≥82

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W, LSSCRX1789, LSSCRX2118 for 60 W, LSSCRX1791 for 80 W.

TECHNICAL DRAWING

POLAR PLOT
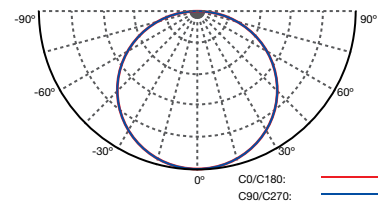
C0/C180:
C90/C270:

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	1240	340	115	1200 x 300
42 W	1240	340	115	1200 x 300
60 W	1240	340	115	1200 x 300
80 W	1240	340	115	1200 x 300

All dimensions are in mm | Tolerance: ± 5 mm

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0073	Walkable Tray 4x1 for TOCR	1340 x 440

LED CLEAN ROOM BOTTOM OPENING 2X1

IP65, dust free & zero maintenance
2x1 LED Clean Room Bottom Opening
luminaire for hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits

- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after hosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

HAVELLS

APPLICATIONS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industry
- Hospital & veterinary premises

Green **LED** | **34 W / 42 W** | Life **50000** hours | **High**Efficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
BOCR2X1R34WLED857SPCMS	34 W	240	0.160	≥0.90	2720	5700 K	≥80
BOCR2X1R42WLED857SPCMS	42 W	240	0.180	≥0.90	3100	5700 K	≥73
BOCR2X1R34WLED857SPCSS*	34 W	240	0.160	≥0.90	2720	5700 K	≥80
BOCR2X1R42WLED857SPCSS*	42 W	240	0.180	≥0.90	3100	5700 K	≥73

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W.

TECHNICAL DRAWING

Cutout

H±2

W±2

259

295.5

L±2
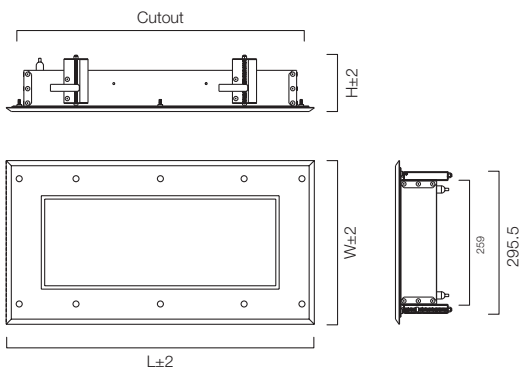
System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	640	340	115	600 x 300
42 W	640	340	115	600 x 300

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0072	Walkable Tray 2x1 for TOCR	740 x 440

LED CLEAN ROOM
TOP OPENING 1X1

IP65, dust free & zero maintenance LED Clean Room Top Opening luminaire for hygenic facilities.

IS 15885 (Part 2/Sec 13)

R-XXXXXXXX

Note: IP65 after proper installation.

Features & Benefits

- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after phosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an Integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 2nos. recessed mounting clamps.

HAVELLS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
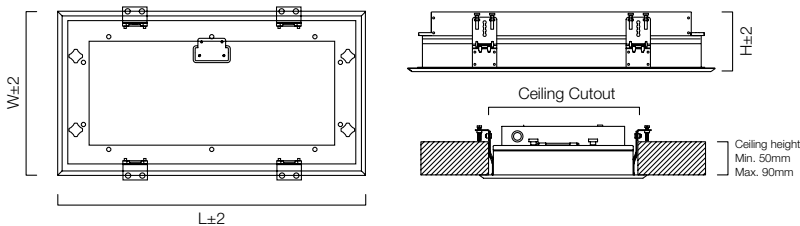- Food & beverage industry
- Hospital & veterinary premises

Green LED | 18 W | *Life* 50000 hours | High Efficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
TOCR1X1R18WLED857SPCMS	18 W	240	0.080	≥0.90	1350	5700 K	≥75

Driver code: LSSCRX1837

TECHNICAL DRAWING
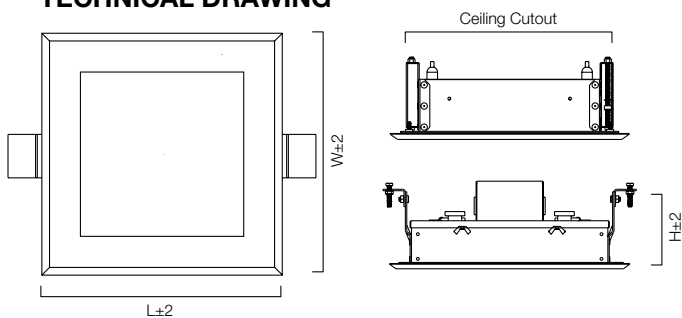
Ceiling Cutout

W±2

H±2

L±2

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
18 W	340	340	125	300 x 300

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0071	Walkable Tray 1x1 for TOCR	440 x 440

LED CLEAN ROOM
TOP OPENING 2X1

IP65, dust free & zero maintenance 2x1
LED Clean Room Top Opening luminaire
for hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits
- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
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Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

APPLICATIONS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industry
- Hospital & veterinary premises

Green **LED** | **34 W / 42 W** | Life **50000** hours | **High**Efficiency
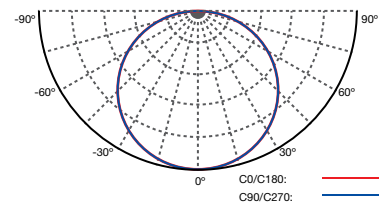
TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
TOCR2X1R34WLED857SPCMS	34 W	240	0.160	≥0.90	2822	5700 K	≥83
TOCR2X1R42WLED857SPCMS	42 W	240	0.180	≥0.90	3300	5700 K	≥78
TOCR2X1R34WLED857SPCSS	34 W	240	0.160	≥0.90	2822	5700 K	≥83
TOCR2X1R42WLED857SPCSS	42 W	240	0.180	≥0.90	3300	5700 K	≥78

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W.

TECHNICAL DRAWING

Ceiling Cutout

Ceiling height Min. 50mm Max. 90mm

POLAR PLOT

C0/C180:
C90/C270:

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	640	340	125	600 x 300
42 W	640	340	125	600 x 300

All dimensions are in mm | Tolerance: ± 5 mm

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0072	Walkable Tray 2x1 for TOCR	740 x 440

LED CLEAN ROOM TOP OPENING 2X2

IP65, dust free & zero maintenance LED Clean Room Top Opening luminaire for hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits

- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after phosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an independent, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industry
- Hospital & veterinary premises

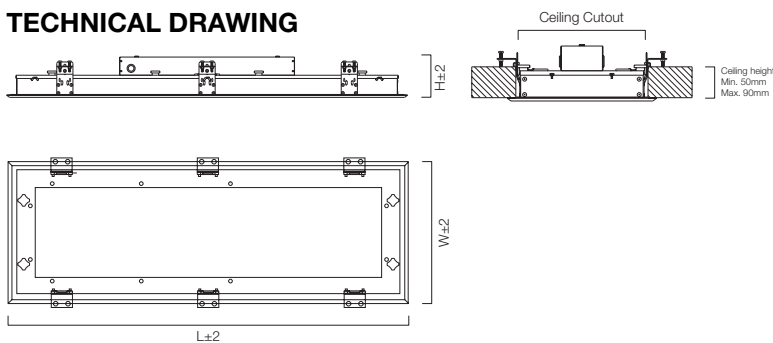## Green LED | 34 W / 42 W / 60 W / 80 W | Life 50000 hours | HighEfficiency
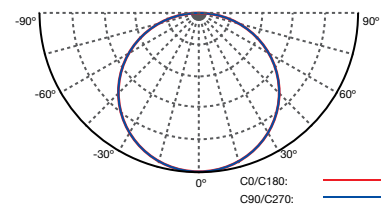
TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/W
TOCR2X2R34WLED857SPCMS	34 W	240	0.150	≥0.90	3400	5700 K	≥100
TOCR2X2R42WLED857SPCMS	42 W	240	0.185	≥0.90	3990	5700 K	≥95
TOCR2X2R42WLED857SPCMS	60 W	240	0.270	≥0.90	5880	5700 K	≥98
TOCR2X2R80WLED857SPCMS	80 W	240	0.350	≥0.90	7200	5700 K	≥90
TOCR2X2R34WLED857SPCSS	34 W	240	0.150	≥0.90	3400	5700 K	≥100
TOCR2X2R42WLED857SPCSS	42 W	240	0.185	≥0.90	3990	5700 K	≥95
TOCR2X2R60WLED857SPCSS	60 W	240	0.270	≥0.90	5880	5700 K	≥98
TOCR2X2R80WLED857SPCSS	80 W	240	0.350	≥0.90	7200	5700 K	≥90

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W,CELDOX0231 for 60 W, LSSCRX1791 for 80 W.

TECHNICAL DRAWING

Ceiling Cutout

Ceiling height Min. 50mm Max. 90mm

W±2

L±2

H±2
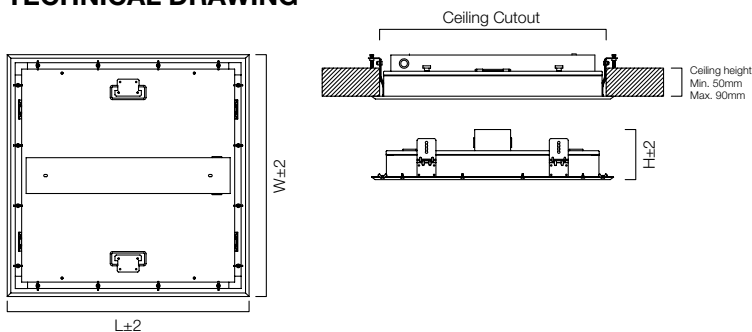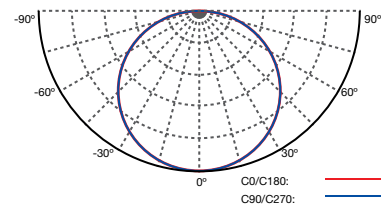
System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	640	640	135	600 x 600
42 W	640	640	135	600 x 600
60 W	640	640	135	600 x 600
80 W	640	640	135	600 x 600

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

-90° | 90°
-60° | 60°
-30° | 30°
0°

C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0074	Walkable Tray 2x2 for TOCR	740 x 740

LED CLEAN ROOM
TOP OPENING 4X1

IP65, dust-free & zero maintenance LED Clean Room Top Opening luminaires for hygenic facilities.

IS 15885 (Part 2/Sec 13)

R-XXXXXXXX

Note: IP65 after proper installation.

Features & Benefits

- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after phosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an independent, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

HAVELLS

APPLICATIONS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industry
- Hospital & veterinary premises

Green LED | 34 W / 42 W / 60 W / 80 W | Life 50000 hours | High Efficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
TOCR4X1R34WLED857SPCMS	34 W	240	0.150	≥0.90	3200	5700 K	≥94
TOCR4X1R42WLED857SPCMS	42 W	240	0.185	≥0.90	3600	5700 K	≥85
TOCR4X1R60WLED857SPCMS	60 W	240	0.270	≥0.90	5400	5700 K	≥90
TOCR4X1R80WLED857SPCMS	80 W	240	0.350	≥0.90	6600	5700 K	≥82
TOCR4X1R34WLED857SPCSS	34 W	240	0.150	≥0.90	3200	5700 K	≥94
TOCR4X1R42WLED857SPCSS	42 W	240	0.185	≥0.90	3600	5700 K	≥85
TOCR4X1R60WLED857SPCSS	60 W	240	0.270	≥0.90	5400	5700 K	≥90
TOCR4X1R80WLED857SPCSS	80 W	240	0.350	≥0.90	6600	5700 K	≥82

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W, CELDOX0231 for 60 W, LSSCRX1791 for 80 W.

TECHNICAL DRAWING

Ceiling Cutout

Ceiling height Min. 50mm Max. 90mm

POLAR PLOT

C0/C180:
C90/C270:

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	1240	340	135	1200 x 300
42 W	1240	340	135	1200 x 300
60 W	1240	340	135	1200 x 300
80 W	1240	340	135	1200 x 300

All dimensions are in mm | Tolerance: ± 5 mm

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0073	Walkable Tray 4x1 for TOCR	1340 x 440

LED TOCR H-CLEAN 2X2
(With Separate Diffuser)

IP65, dust free & zero maintenance
2x2 LED H-Clean Room Top Opening
luminaire for hygenic facilities.

Note: IP65 after proper installation.

IS 15885 (Part 2/Sec 13)

R-XXXXXXXX

Features & Benefits
- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after phosphochromate treatment provided as standard.

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an independent, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through screws.

APPLICATIONS

- Pharmaceutical industry
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industry
- Hospital & veterinary premises

Green **LED** | **42 W / 60 W** | Life **50000** hours | **High**Efficiency

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
TOCRW/OFRAME2X2R42WCBLED857SPCMS	42 W	240	0.185	≥0.90	4200	5700 K	≥95
TOCRW/OFRAME2X2R60WCBLED857SPCMS	60 W	240	0.270	≥0.90	6000	5700 K	≥98

Driver code: LSSCRX1791 for 42 W, LSSCRX2118+LSSCRX1789 for 60 W.

TECHNICAL DRAWING
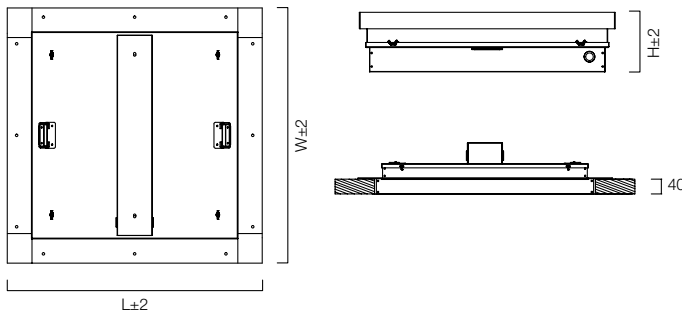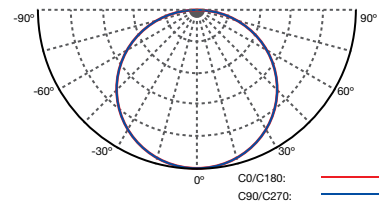
System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
42 W	690	690	139	600 x 600
60 W	690	690	139	600 x 600

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

C0/C180:
C90/C270:

Accessories - Walkable Tray For Top Opening Clean Room Fixtures

Ordering Code	Compatible with	Size (l x w) in mm
LSSLOW0074	Walkable Tray 2x2 for TOCR	740 x 740

LED CLEAN ROOM
BOTTOM OPENING SCREW LESS

IP65, dust free & zero maintenance LED
Clean Room Bottom Opening luminaire for
hygenic facilities.

Note: IP65 after proper installation.

Features & Benefits
- Excellent efficacy & performance suitable for high ceiling areas
- Long life & photobiologically safe LED's
- High performance electronic driver ensures zero maintenance
- No harmful UV & IR radiations
- Environment friendly as it does not contain Mercury
- Instant light with low running temperatures
- Operating temperature: -10° C to +45° C
- Operating voltage range: 140 V - 270 V
- Average life $L_{70}B_{50}$: 50000 hours

Housing
CRCA powder coated white after phosphochromate treatment provided as standard. Aesthetically designsn Screwlees Bottom frame .

Diffuser
High quality polycarbonate opal diffuser for glare free uniform light distribution.

Light source
High efficiency long life LED package in integral module with lumen efficacy of >140 lm/W and viewing angle of 120° to ensure better uniformity.

Electronic driver
Powered by an integral, Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other Safety test as per IS:15885 Part 2/Sec 13.

Mounting
Provision for recess mounting through 4nos. recessed mounting clamps.

APPLICATIONS

- Pharmaceutical industries
- Electronic & precision engineering facilities
- Chemical & biological labs
- Semiconductor fabrication
- Food & beverage industries
- Hospital & veterinary premises

TECHNICAL DATA

Ordering Code	System Power (W)	Nominal Voltage (V)	Mains Current (A)	Power Factor	System Lumens (lm)	Colour Temp. (CCT)	System Luminous Efficacy lm/ W
BOCR2X2R34WLED857SPCMSSL	34 W	240	0.150	≥0.90	3200	5700 K	≥94
BOCR2X2R42WLED857SPCMSSL	42 W	240	0.185	≥0.90	3990	5700 K	≥95
BOCR2X2R60WLED857SPCMSSL	60 W	240	0.270	≥0.90	5280	5700 K	≥88
BOCR2X2R80WLED857SPCMSSL	80 W	240	0.350	≥0.90	7020	5700 K	≥87

Driver code: LSSCRX1789 for 34 W, LSSCRX1791 for 42 W, LSSCRX1789, LSSCRX2118 for 60 W, LSSCRX1791 for 80 W.
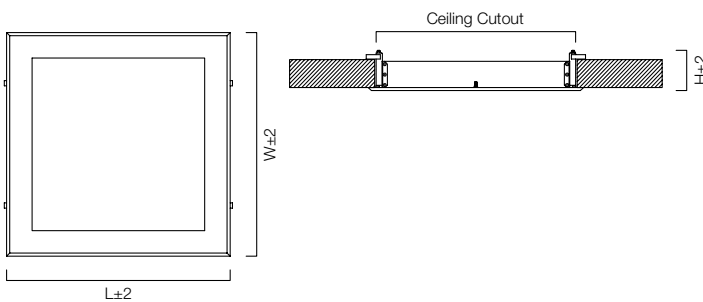
TECHNICAL DRAWING

System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
34 W	640	640	115	600 x 600
42 W	640	640	115	600 x 600
60 W	640	640	115	600 x 600
80 W	640	640	115	600 x 600

All dimensions are in mm | Tolerance: ± 5 mm

TECHNICAL DRAWING FOR 18 W
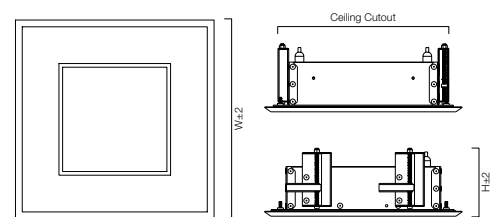
System Power	Length l (mm)	Width w (mm)	Height h (mm)	Cutout Size (in mm)
18 W	340	340	125	300 x 300

All dimensions are in mm | Tolerance: ± 5 mm

POLAR PLOT

C0/C180:
C90/C270:

NOTES

HAVELLS
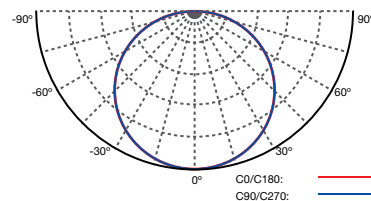
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