

LED-4607
Wall Wash Reflector with
Diffuse Lens



LED-4614
Reflector with
Frosted Glass Lens



LED-4615
Reflector with
Tempered Glass Lens



HH4SQ-TL-LED-4607
Trimless Wall Wash
Reflector with Diffuse Lens



HH4SQ-TL-LED-4614
Trimless Reflector with
Frosted Glass Lens



HH4SQ-TL-LED-4615
Trimless Reflector with
Tempered Glass Lens

REFLECTOR/
FLANGE COLORS



CL-WH



CL-SCH



SHZ-WH



SHZ-SHZ



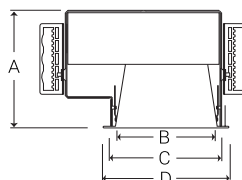
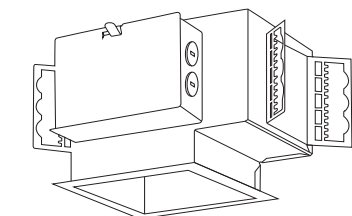
WT-WH



W-WH



MB-BK



A: Height = 5-1/2"
B: Trim Aperture = 4-1/2"
C: Cut-Out = 5-1/8"
D: Trim Outside Dia = 5-3/4"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
2000	2039	28 W
1500	1488	20 W
1200	1280	17 W
900	894	11 W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange.

LUMENS	900, 1200, 1500, 2000 (Custom lumen packages available)
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	MD (Medium Distribution)
TRIM OPTIONS	Downlight, Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), WH (White), MB (Black)
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFB, LUT2W, ELDO10.1, ELDDMX.1, ELDDALI.1, DIMTR
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory)
LIFETIME	L70 at 102,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

MD: Medium
Candlepower Distribution Curve



Reference IES files for additional distribution curve information.



THERMAL MANAGEMENT SYSTEM

Passive cooling die-cast aluminum heatsink. LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. A unique locking mechanism aligns the reflector with the light engine for precise, uniform aiming.

MOUNTING FRAME & BRACKETS

Constructed from 16-gauge steel. Can be installed with 3/4" or 1-1/2" lathing channel, 1/2" EMT, or with optional C-channel mounting bars (Part# BP31) ordered separately. Housing can be adjusted from the inside of the ceiling.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.

DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 3000 lumens only.

LUT2W - Lutron LTEA2W Hi-Lume 1%. 2-wire LED Driver Forward Phase Control, 1% dimming in 120V only.

LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.

LUTFB - Lutron PEQ0 Hi-Lume Premier Eco System. 0.1% dimming with Soft in Fade to Black dimming technology. Available on all luminaires up to 20 watts.

ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.

DALI - DALI DT6, DT8 dimming down to 1%.


ELDODMX - EldoLED PowerDrive dimming down to 0.1%.


Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.


WARRANTY

Five-year warranty for parts and components. (Labor not included)

LED DYNAMIC PLATFORM OPTIONS

 **Tunable White with Smart White Technology** utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

 **Dims to Warm with Smart Dimming Technology.** At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

 **RGB+White with Smart Hue Technology** provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

LISTINGS

c-UL-us - Listed for Wet Location.

c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S

Example: **HH4SQ-LED-900L-DIM10-MVOLT-MD-40K-90-LED-4607-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HH4SQ-LED	<input type="checkbox"/> 900L <input type="checkbox"/> 1200L <input type="checkbox"/> 1500L <input type="checkbox"/> 2000L	<input type="checkbox"/> DIM10 <input type="checkbox"/> DIMTR ¹ <input type="checkbox"/> LUTH ² <input type="checkbox"/> LUT2W ¹ <input type="checkbox"/> LUTFTB ⁵ <input type="checkbox"/> ELDO10-1 ² <input type="checkbox"/> ELDODALI-1 ² <input type="checkbox"/> ELDODMX-1 ²	<input type="checkbox"/> 120 <input type="checkbox"/> 277 <input type="checkbox"/> MVOLT <input type="checkbox"/> 347 (DIM10 only)	<input type="checkbox"/> 22K <input type="checkbox"/> 27K <input type="checkbox"/> 30K <input type="checkbox"/> 35K <input type="checkbox"/> 40K <input type="checkbox"/> 50K ³	<input type="checkbox"/> EMG-LED-10W <input type="checkbox"/> EMG-LED-20W <input type="checkbox"/> INTG-EMG-LED-10W <input type="checkbox"/> INTG-EMG-LED-20W <input type="checkbox"/> EMG-LED-G2-10W-SDT* Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option. In emergency mode. Contact the factory for details. Remote mounted installation *Consult Factory for Self Diagnostic	<input type="checkbox"/> LED-4614 Reflector with Frosted Glass Lens <input type="checkbox"/> LED-4615 Reflector with Tempered Glass Lens <input type="checkbox"/> LED-4607 Wall Wash Reflector with Diffuse Lens	<input type="checkbox"/> CL-WH <input type="checkbox"/> CL-SCH <input type="checkbox"/> SHZ-WH <input type="checkbox"/> SHZ-SHZ <input type="checkbox"/> WT-WH <input type="checkbox"/> WH-WH <input type="checkbox"/> MB-WH <input type="checkbox"/> CL-BK <input type="checkbox"/> MB-BK
			OPTICS	CRI			
			<input type="checkbox"/> MD	<input type="checkbox"/> 90+ <input type="checkbox"/> 98+ ⁴			
						TRIMLESS <input type="checkbox"/> HH4SQ-TL-4614 Trimless Reflector with Frosted Glass Lens <input type="checkbox"/> HH4SQ-TL-4615 Trimless Reflector with Tempered Glass Lens <input type="checkbox"/> HH4SQ-TL-4607 Trimless Wall Wash Reflector with Diffuse Lens	

¹ DIMTR and LUT2W are available in 120V only

² LUTH, ELDO10-1, ELDODALI-1, and ELDODMX-1 are available in 120V and 277V

³ 50K series are available with 85+ CRI only

⁴ 98+ CRI is available in 27K, 30K and 40K only

⁵ LUTFTB Available for luminaires up to 1500L

* Only Available on 85+ CRI

-Reference last page for Control Options

HH4SQ-LED-900L-DIM10-MVOLT-MD-40K-90-LED-4607-CL-WH

TEST NO.: **EL011933**

INPUT WATTS: **11.3**

LUMENS: **860**

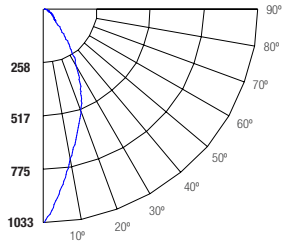
CRI: **90**

EFFICACY: **76**

CCT: **4000K**

SPACING CRITERIA: **0.92**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	281.18	N.A.	32.70
0-30	518.04	N.A.	60.20
0-40	687.43	N.A.	79.90
0-60	822.14	N.A.	95.60
0-80	856.69	N.A.	99.60
0-90	859.83	N.A.	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	8724	18656	28746
55	6961	11163	13443
65	3362	9755	11999
75	1072	7398	10927
85	227	7059	11274

Lumens Per Zone

Zone	Lumens
0-10	80.80
10-20	200.38
20-30	236.85
30-40	169.39
40-50	90.38
50-60	44.33
60-70	24.46
70-80	10.09
80-90	3.14

Candela Tabulation

0	0
880.14	5
890.75	15
696.52	25
548.83	35
114.04	45
62.47	55
40.43	65
14.39	75
2.81	85
0.20	90
0.09	

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

Cone of Light			
2	220	2.1	1.8
4	55	4.2	3.6
6	24.4	6.4	5.4
8	13.8	8.5	7.3
10	8.8	10.6	9.1
12	6.11	12.7	10.9
(FT) Distance to Plane	(FC) Initial Footcandle at Nadir	(FT) Beam Vert. Spread	(FT) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

	RC	80%				70%				50%				30%				10%				0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%			
ROOM CAVITY RATIO	0	119	119	119	119	116	118	116	116	111	111	111	106	106	106	102	102	102	100			
	1	112	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91			
	2	106	100	96	92	104	99	94	91	95	92	89	92	89	87	89	87	85	83			
	3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76			
	4	94	85	79	74	92	84	78	74	82	77	73	80	76	72	78	74	71	70			
	5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66	64			
	6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	68	64	61	59			
	7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55			
	8	75	64	58	53	74	64	58	53	63	57	53	62	56	53	61	56	52	51			
	9	71	61	54	50	70	60	54	50	59	53	49	58	53	49	57	53	49	48			
10	68	57	51	47	66	57	51	46	56	50	46	55	50	46	54	49	46	45				

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

HH4SQ-LED-900L-DIM10-MVOLT-MD-40K-90-LED-4614-CL-WH

TEST NO.: **EL011932**

INPUT WATTS: **11.3**

LUMENS: **894**

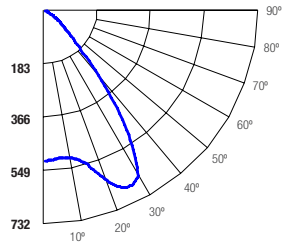
CRI: **90**

EFFICACY: **79**

CCT: **4000K**

SPACING CRITERIA: **1.24**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	199.67	N.A.	22.30
0-30	464.44	N.A.	52.00
0-40	705.54	N.A.	79.00
0-60	880.40	N.A.	98.50
0-80	892.85	N.A.	99.90
0-90	893.59	N.A.	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	14719	22980	25867
55	3662	6353	11924
65	601	1192	5776
75	385	652	740
85	363	940	1054

Lumens Per Zone

Zone	Lumens
0-10	47.24
10-20	152.43
20-30	264.77
30-40	241.10
40-50	131.29
50-60	43.57
60-70	10.75
70-80	1.70
80-90	0.74

Candela Tabulation

0	0
499.26	5
491.18	15
573.25	25
518.62	35
199.45	45
105.40	55
21.27	65
2.57	75
1.01	85
0.32	90
0.06	

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

Cone of Light			
2	125	2.5	2.8
4	31.2	5	5.5
6	13.9	7.5	8.3
8	7.8	10.1	11
10	4.99	12.6	13.8
12	3.47	15.1	16.6
(FT) Distance to Plane	(FC) Initial Footcandle at Nadir	(FT) Beam Vert. Spread	(FT) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

RC	80%				70%				50%				30%				10%				0%			
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%		
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100		
	1	113	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	92	92	92	92		
	2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83	83	83	83		
	3	99	92	86	81	97	90	85	81	87	83	79	85	81	78	83	79	77	75	75	75	75		
	4	93	84	78	73	91	83	77	72	81	75	71	79	74	70	77	73	70	68	68	68	68		
	5	87	77	70	65	85	76	70	65	74	69	64	73	68	64	71	67	63	62	62	62	62		
	6	82	71	64	59	80	70	64	59	69	63	59	67	62	58	66	61	58	56	56	56	56		
	7	77	66	59	54	75	65	58	54	64	58	53	62	57	53	61	56	53	51	51	51	51		
	8	72	61	54	49	71	60	54	49	59	53	49	58	53	49	57	52	48	47	47	47	47		
	9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43	43	43	43		
10	64	53	46	42	63	52	46	42	51	46	42	51	45	41	50	45	41	40	40	40	40			

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated control systems

2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems

3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	EASYFIT by EnOcean	LUTRON	enlighted	LEVITON®	OSRAM	PHILIPS EasySense	legrand®
CONTROL UNIT	<input type="checkbox"/> LEDRU LED Relay Zone Controller 0-10V ¹	<input type="checkbox"/> FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminaire is shipped Vive Enabled) ¹⁴	<input type="checkbox"/> CU-4E-FMH Fixture Mount Control Unit ¹⁵	<input type="checkbox"/> ZL027 –NOW Intellect Power Control Module ¹⁶	<input type="checkbox"/> EN-WCM2-ZB-DR Wireless Control Module ¹⁷	<input type="checkbox"/> SBR -BS Xitanium SR Bridge ¹⁸	<input type="checkbox"/> LMFC-011 ON/OFF/0-10V dimming fixture controller ¹⁹
	<input type="checkbox"/> LEDDU LED Zone Controller 0-10V ¹	<input type="checkbox"/> FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminaire is shipped Vive Enabled) ¹⁴		<input type="checkbox"/> ZL027 –NOW Intellect Power Control Module ¹⁶	<input type="checkbox"/> EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module ¹⁷ <input type="checkbox"/> ZBHA-CLM-DIM-ENC Connected Lighting Module DIM ¹⁷		
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	<input type="checkbox"/> EOSCU-W-EO Occupancy Sensor - Ceiling Mounted (Must be specified with LEDRU or LEDDU control unit) ³	N/A	N/A	N/A	N/A	N/A	<input type="checkbox"/> LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor ³
*WIRELESS DAYLIGHT SENSOR	<input type="checkbox"/> ELLSU-W-EO Light Level Sensor - Ceiling Mounted (Must be specified with LEDRU or LEDDU control unit) ³	N/A	N/A	N/A	N/A	N/A	<input type="checkbox"/> LMLS-400 Single zone switching and dimming digital photosensor ³
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	<input type="checkbox"/> SU-5E-IoT IoT Node Micro Sensor ³ <input type="checkbox"/> SU-5E-CL Connected Lighting Micro Sensor ³ <input type="checkbox"/> SU-5E-IL Independent Lighting / Enlighted One Micro Sensor ³ <input type="checkbox"/> SU-5S-H-(IoT/CL/IL) Surface Mount Sensor ³ (Must be specified with CU- 4E-FMH Control Unit)	<input type="checkbox"/> ZL00J -TOW Intellect Intelligent Fixture Control System ³ (Must be specified with ZL027 –NOW Control Unit)	<input type="checkbox"/> EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor <input type="checkbox"/> EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors ³ (Must be specified with EN-WCM2-ZB-DR or EN- ALC-ZB-BK-DR Control Unit)	<input type="checkbox"/> SNS200- CMP SNS200 for grouping ³	N/A
ACCESSORIES	N/A	N/A	<input type="checkbox"/> TMC-SU-5E Tile Mount Carrier <input type="checkbox"/> CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT Ready™ drivers <input type="checkbox"/> CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT Ready™ drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount 360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatible with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.