



HH4-4501
Flanged Downlight

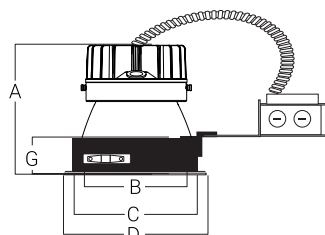
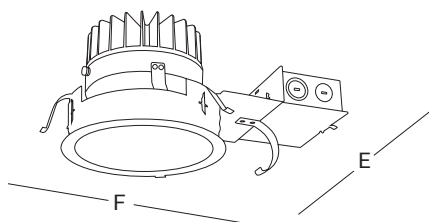


HH4-4507
Flanged Wall Wash



HH4-4577
Flanged Double Wall Wash

REFLECTOR/
FLANGE COLORS



A: Height = 5-3/4"
B: Trim Aperture = 4-1/8"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 7-3/16"
F: Length = 13-11/16"
G: Flange = 1-11/16"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3394	32W
2000	2144	26W
1500	1699	20W
1200	1341	16W
900	995	12W

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, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

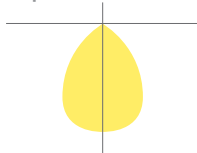
The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange.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

LUMENS	900, 1200, 1500, 2000, 3000* 1 (Custom lumen packages available)
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	WD (Wide Distribution), MD (Medium Distribution) and ND (Narrow Distribution)
TRIM OPTIONS	Downlight, Wall Wash, Double 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 (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20)
LIFETIME	L70 at 102,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

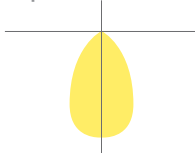
* 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

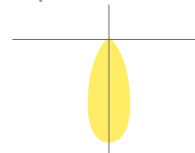
WD: Wide
Candlepower Distribution Curve



MD: Medium
Candlepower Distribution Curve



ND: Narrow
Candlepower Distribution Curve



Reference IES files for additional distribution curve information.



THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

Designed for fast and easy installation in existing plaster or mechanical ceiling thickness from 1/2" to 1-3/4", with four remodel clips that are easily retractable for luminaire removal, if necessary.

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 if used with HH4-4501 Trim.

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

U.S Patent No. - D685,118S

Energy Star and California Title 24 compliant

Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.

Example: **HHR4-LED-3000L-DIM10-MVOLT-MD-40K-85-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HHR4-LED	☐ 900L ☐ 1200L ☐ 1500L ☐ 2000L ☐ 3000L* ⁵	☐ DIM10 ☐ DIMTR ¹ ☐ LUTH ² ☐ LUT2W ¹ ☐ LUTFTB ⁶ ☐ ELDO10-.1 ² ☐ ELDODALI-.1 ² ☐ ELDODMX-.1 ²	☐ 120 ☐ 277 ☐ MVOLT ☐ 347 (DIM10 only)	☐ 27K ☐ 30K ☐ 35K ☐ 40K ☐ 50K ³	☐ EMG-LED-10W ☐ EMG-LED-20W 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	☐ HH4-4501 Flanged Downlight ☐ HH4-4507 Flanged Wall Wash ☐ HH4-4577 Flanged Double Wall Wash	☐ CL-WH ☐ CL-SCH ☐ SHZ-WH ☐ SHZ-SHZ ☐ WT-WH ☐ WH-WH ☐ MB-WH* ☐ CL-BK ☐ MB-BK* * Black color trim is not ENERGYSTAR certified
			OPTICS	CRI			
			☐ WD ☐ MD ☐ ND	☐ 90+ ☐ 98+ ⁴			

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 3000 Lumens is not energy Star certified

⁶ LUTFTB Available for luminaires up to 1500L

* Only Available on 85+ CRI

-Reference last page for Control Options

HHR4-LED-3000L-DIM10-MVOLT-ND-40K-80-HH4-4501-CL-WH

TEST NO.: **EL011931**

INPUT WATTS: **32.5**

LUMENS: **3394**

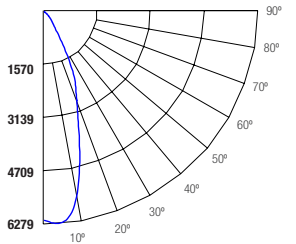
CRI: **80**

EFFICACY: **104**

CCT: **4000K**

SPACING CRITERIA: **0.68**

Candle Power Distribution (Candelas)



Cone of Light			
Beam Diameter (ft.)	Beam Area (sq. ft.)	Beam Circumference (ft.)	Beam Volume (cu. ft.)
2	1543	1.4	1.4
4	386	2.8	2.7
6	171	4.2	4.1
8	96.4	5.6	5.5
10	61.7	7	6.8
12	42.9	8.5	8.2

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

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	1701.94	50.10	50.10
0-30	2669.2	78.60	78.60
0-40	3112.88	91.70	91.70
0-60	3371.36	99.30	99.30
0-80	3392.3	99.90	99.90
0-90	3394.27	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	36201	40313	59400
55	7212	13319	15011
65	2565	3279	7949
75	1244	1870	2395
85	519	3765	4487

Lumens Per Zone

Zone	Lumens
0-10	556.52
10-20	1145.42
20-30	967.26
30-40	443.68
40-50	204.13
50-60	54.35
60-70	16.67
70-80	4.26
80-90	1.98

Candela Tabulation

0	0
0	6170.90
5	6260.87
15	4115.63
25	2139.08
35	507.54
45	203.59
55	32.90
65	8.62
75	2.56
85	0.36
90	0.11

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

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%	50%	30%	10%
0	119	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100
1	114	111	109	107	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94	94	94	94	94	94
2	109	104	100	97	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88	88	88	88	88	88
3	104	98	93	89	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83	83	83	83	83	83
4	99	92	87	83	83	97	91	86	82	89	85	81	87	83	80	85	82	80	78	78	78	78	78	78
5	94	87	81	77	77	93	86	81	77	94	80	76	82	79	76	81	78	75	74	74	74	74	74	74
6	90	82	77	73	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70	70	70	70	70	70
7	86	78	72	68	68	85	77	72	68	76	71	68	75	71	67	74	70	67	66	66	66	66	66	66
8	83	74	68	65	65	82	73	68	65	72	68	64	71	67	64	70	67	64	62	62	62	62	62	62
9	79	70	65	61	61	78	70	65	61	69	64	61	68	64	61	67	63	61	59	59	59	59	59	59
10	76	67	62	58	58	75	67	62	58	66	61	58	65	61	58	65	61	58	57	57	57	57	57	57

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

HHR4-LED-3000L-DIM10-MVOLT-MD-40K-80-HH4-4501-CL-WH

TEST NO.: **EL011930**

INPUT WATTS: **32.5**

LUMENS: **3219**

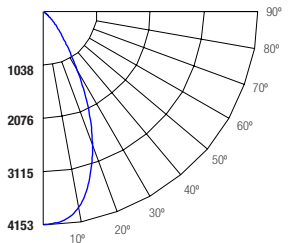
CRI: **80**

EFFICACY: **99**

CCT: **4000K**

SPACING CRITERIA: **0.80**

Candle Power Distribution (Candelas)



Cone of Light			
Beam Diameter (ft.)	Beam Area (sq. ft.)	Beam Circumference (ft.)	Beam Volume (cu. ft.)
2	1038	1.9	1.9
4	260	3.9	3.8
6	115	5.8	5.7
8	64.9	7.7	7.6
10	41.5	9.6	9.5
12	28.8	11.6	11.4

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

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	1325.49	41.20	41.20
0-30	2298.48	71.40	71.40
0-40	2873.04	89.20	89.20
0-60	3195.41	99.30	99.30
0-80	3217.25	99.90	99.90
0-90	3219.12	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	43102	49739	69914
55	7569	15134	16416
65	2562	3323	8571
75	1248	1861	2322
85	519	3433	4068

Lumens Per Zone

Zone	Lumens
0-10	381.93
10-20	943.57
20-30	972.99
30-40	574.56
40-50	260.70
50-60	61.61
60-70	17.62
70-80	4.23
80-90	1.87

Candela Tabulation

0	0
0	4152.88
5	4102.36
15	3431.97
25	2073.84
35	760.44
45	242.40
55	34.53
65	8.61
75	2.57
85	0.36
90	0.12

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

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%	50%	30%	10%
0	119	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100
1	113	111	108	105	105	111	109	107	104	105	103	101	101	99	98	97	96	94	93	93	93	93	93	93
2	108	103	99	96	96	106	101	98	94	98	95	92	95	93	90	92	90	89	87	87	87	87	87	87
3	102	96	91	87	87	100	95	90	86	92	88	85	90	86	84	87	85	82	81	81	81	81	81	81
4	97	90	84	80	80	95	89	83	79	86	82	79	84	81	78	83	79	77	75	75	75	75	75	75
5	92	84	78	74	74	91	83	78	74	81	77	73	80	76	72	78	75	72	70	70	70	70	70	70
6	88	79	73	69	69	88	78	73	68	77	72	68	75	71	68	74	70	67	66	66	66	66	66	66
7	84	74	68	64	64	82	74	68	64	72	67	64	71	67	63	70	66	63	62	62	62	62	62	62
8	80	70	64	60	60	78	70	64	60	68	63	60	67	63	60	67	63	60	58	58	58	58	58	58
9	76	66	60	56	56	75	66	60	56	65	60	56	64	59	56	63	59	56	54	54	54	54	54	54
10	72	63	57	53	53	71	62	57	53	62	57	53	61	56	53	60	56	53	51	51	51	51	51	51

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

HHR4-LED-3000L-DIM10-MVOLT-WD-40K-80-HH4-4501-CL-WH

TEST NO.: **EL011929**

INPUT WATTS: **32.6**

LUMENS: **2945**

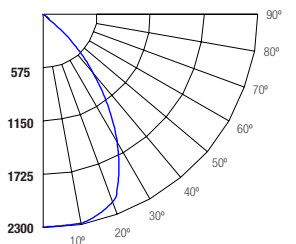
CRI: **80**

EFFICACY: **90**

CCT: **4000K**

SPACING CRITERIA: **1.04**

Candle Power Distribution (Candelas)



Cone of Light			
Beam Diameter (ft.)	Beam Area (sq. ft.)	Beam Circumference (ft.)	Beam Volume (cu. ft.)
2	567	2.7	2.9
4	142	5.4	5.9
6	62.9	8.1	8.8
8	35.4	10.7	11.7
10	22.7	13.4	14.6
12	15.7	16.1	17.6

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

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	848.20	28.80	28.80
0-30	1723.95	58.50	58.50
0-40	2470.74	83.90	83.90
0-60	2917.72	99.10	99.10
0-80	2943.56	99.90	99.90
0-90	2945.36	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	62264	77268	86719
55	9027	20993	21528
65	2782	3695	10901
75	1307	1880	2303
85	548	3073	3607

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	☐ LEDRU LED Relay Zone Controller 0-10V ¹	☐ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminaire is shipped Vive Enabled) ¹⁴	☐ CU-4E-FMH Fixture Mount Control Unit ¹⁵	☐ ZL027 –NOW Intellect Power Control Module ¹⁶	☐ EN-WCM2-ZB-DR Wireless Control Module ¹⁷	☐ SBR -BS Xitanium SR Bridge ¹⁸	☐ LMFC-011 ON/OFF/0-10V dimming fixture controller ¹⁹
	☐ LEDDU LED Zone Controller 0-10V ¹	☐ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminaire is shipped Vive Enabled) ¹⁴		☐ ZL027 –NOW Intellect Power Control Module ¹⁶	☐ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module ¹⁷ ☐ 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	☐ 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	☐ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor ³
*WIRELESS DAYLIGHT SENSOR	☐ 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	☐ LMLS-400 Single zone switching and dimming digital photosensor ³
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	☐ SU-5E-IoT IoT Node Micro Sensor ³ ☐ SU-5E-CL Connected Lighting Micro Sensor ³ ☐ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor ³ ☐ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor ³ (Must be specified with CU- 4E-FMH Control Unit)	☐ ZL00J -TOW Intellect Intelligent Fixture Control System ³ (Must be specified with ZL027 –NOW Control Unit)	☐ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ☐ 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)	☐ SNS200- CMP SNS200 for grouping ³	N/A
ACCESSORIES	N/A	N/A	☐ TMC-SU-5E Tile Mount Carrier ☐ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT Ready™ drivers ☐ 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.