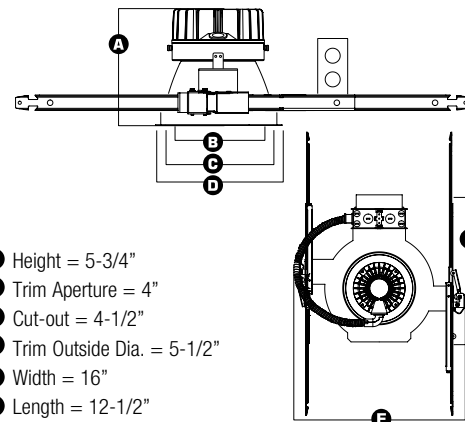
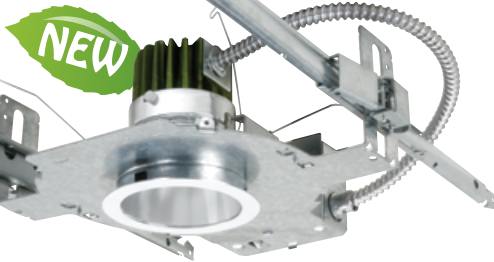


HH4-LED 4" ARCHITECTURAL HIGH LUMEN LED DOWNLIGHT



3000 LUMENS



- A** Height = 5-3/4"
- B** Trim Aperture = 4"
- C** Cut-out = 4-1/2"
- D** Trim Outside Dia. = 5-1/2"
- E** Width = 16"
- F** Length = 12-1/2"

INPUT VOLT.	INPUT FREQ.	INPUT CUR.	THD	POWER FACTOR	INPUT POWER	LUMENS
120/277	50/60Hz	342mA/148mA	<20%	>0.9	41W(+/-5%)	3000
120/277	50/60Hz	225mA/97mA	<20%	>0.9	27W(+/-5%)	2000
120/277	50/60Hz	175mA/76mA	<20%	>0.9	21W(+/-5%)	1500
120/277	50/60Hz	142mA/61mA	<20%	>0.9	17W(+/-5%)	1200
120/277	50/60Hz	100mA/43mA	<20%	>0.9	12W(+/-5%)	900

DESCRIPTION - 4" LED dedicated Architectural New Construction Downlight with integral LED heat management casting and driver (installed on junction box). Available in 900 lumens, 1200 lumens, 1500 lumens, 2000 lumens & 3000 lumens. ELITE's eco-friendly MAXILUME LED system is Energy Star and California Title 24 compliant and features 70% lumen maintenance at 102,000hrs of life. Our lighting adds comfort to any environment while using 50% less energy than the common CFL downlight.

FEATURES - MAXILUME LED luminaires are ideally suited for use in hospitality, health care, commercial, academic institutions, retail and other architectural applications.



OPTICS - MAXILUME LED Optilux technology combines unmatched performance with visual comfort. Spun 0.05" thick 1-step anodized reflector has been designed to gather the light scattered by the LED chip and shape it into functional beams that minimize brightness and glare, while eliminating lamp image. Reflector offers a 45-55 degree cutoff and smooth frost Solite diffuser distributes light even throughout the workplace in 3 different distribution; Wide (WD), Medium (MD) and Narrow (ND).

PERFORMANCE - Operating system delivers 900, 1200, 1500, 2000 & 3000 lumens. All MAXILUME LED luminaires are rated at 85+, 90+ and 98+ CRI, and are binned to within 2 MacAdam ellipses. Elite's highly selective LED chips produce zero ultraviolet and virtually no infrared light. All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory.

THERMAL MANAGEMENT SYSTEM - Using a proprietary coolLED Advanced Thermodynamic Design, Die-cast aluminum housing and heat management system are engineered for extremely long life and service period. Heat sink is attached to top of reflector. The LED light engine is attached to the die-cast heat sink and is easily replaceable and upgradable. Our die-cast system pulls the heat from the LED chip, allowing continued cool operation for years. Life tests have shown the MAXILUME light engine output will be maintained at 70% of initial at 102,000hrs of operation.

DIMMABLE -The MAXILUME LED system is shipped standard with a 0-10V driver which can be dimmed down to 1% of initial light output with a 0-10V dimmer when ordered with the following options (DIM10-120, DIM10-277). Fixtures can also be shipped with a Lutron Hi-lume A series driver which can be dimmed with Lutron Dimming Systems when ordered with the following options (LUTH-120, LUTH-277), Lutron® Hi-Lume A-Series (LUT2W-120) 2-Wire Forward Phase Control 1% Dimming in 120V only, or EldoLed 0-10V 1% Dimming, consult factory for other EldoLed driver and other driver options. Triac & Electronic Low Voltage dimming driver also available when ordered with the following options (DIMTR-120). All fixtures are dimmable down to 1%.

MOUNTING FRAME - Die-formed construction for maximum heat dissipation and rust protection.

Example: HH4-LED-900L-DIM10-120-MD-30K-HH4-4501-CL-WH

MOUNTING BRACKET - Constructed from 16 gauge steel and is supplied with C-channel that are adjustable up to 28". Mounting bracket maybe adjusted up to 2-3/4" vertically from inside the housing.

LED DRIVER/JUNCTION BOX - The LED driver is rated for 50 to 60Hz at 120V /277V input, produces less than 20%THD, and has a power factor between 90% and 100% and is thermally protected for additional safety. MAXILUME's LED driver is installed on the junction box cover so it may be serviced from below the ceiling. UL Listed for through-branch circuit wiring, provided with four 1/2" knockouts, one 3/4" knockout and four Romex knockouts with true pryout slots and strain clamps. Designed for straight through conduit runs.

OUR WORD - The MAXILUME LED lighting system carries a five-year carefree warranty for parts and components. (Labor not included.)

DIMMING INFORMATION

DIM10 (0-10V 1% Dimming) **LUTH** (Lutron® Hi-Lume A-Series 3-Wire or Eco System 1% Dimming up to 4000 lumens only) **LUT2W** (Lutron® Hi-Lume A-Series 2-Wire Forward Phase Control 1% Dimming in 120V only and up to 3000 lumens only) **LUTFB** (Lutron® Hi-Lume FadeToBlack Dimming down to 1% compatible with Eco System Controls available in fixtures up to 75 Watts) **ELDO10** (EldoLed 0-10V 1% Dimming up to 3000 lumens only, consult factory for the EldoLed driver options) **DIMTR** (Triac & Electronic Low Voltage Dimming)

LISTING

c-UL-us - listed for Wet Location if used with HH4-4501 Trim.
 c-UL-us - listed for feed Through Wiring.
 LM79 / LM80
 U.S Patent No. - D685,118S
 CP - City of Chicago environmental air (CCEA) marking for plenum applications.

LED Driver options:

OPTOTRONIC OSRAM
Dimmable LED Power Supplies

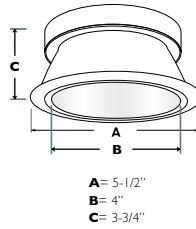
LUTRON
PHILIPS ADVANCE
Quality LED Drivers

TYPE	LUMENS/DRIVER			VOLTAGE	OPTICS	CCT	CRI	EMERGENCY	TRIM TYPE		REFLECTOR/ RING FINISH	DISC					
	900L SERIES	1200L SERIES	1500L SERIES						NO DISC	WITH DISC							
HH4-LED	<input type="checkbox"/> 900L-DIM10	<input type="checkbox"/> 1200L-DIM10	<input type="checkbox"/> 1500L-DIM10	<input type="checkbox"/> 120 <input type="checkbox"/> 277 <input type="checkbox"/> 347 (DIM10 only)	<input type="checkbox"/> WD (60°-70°) <input type="checkbox"/> MD (50°-55°) <input type="checkbox"/> ND (30°-40°)	<input type="checkbox"/> 27K <input type="checkbox"/> 30K <input type="checkbox"/> 35K <input type="checkbox"/> 40K <input type="checkbox"/> 50K ² (85+ CRI only)	<input type="checkbox"/> 85+ <input type="checkbox"/> 90+ <input type="checkbox"/> 98+	<input type="checkbox"/> EMG-LED Typical lumen output of the fixture is up to 1000L in emergency mode. Contact the factory for details.	<input type="checkbox"/> HH4-4501	<input type="checkbox"/> HH4-4509	<input type="checkbox"/> CL-WH	<input type="checkbox"/> BLUE					
	<input type="checkbox"/> 900L-DIMTR ¹	<input type="checkbox"/> 1200L-DIMTR ¹	<input type="checkbox"/> 1500L-DIMTR ¹						<input type="checkbox"/> HH4-4507	<input type="checkbox"/> HH4-4510	<input type="checkbox"/> CL-SCH	<input type="checkbox"/> RED					
	<input type="checkbox"/> 900L-LUTH ²	<input type="checkbox"/> 1200L-LUTH ²	<input type="checkbox"/> 1500L-LUTH ²						<input type="checkbox"/> HH4-4521	<input type="checkbox"/> HH4-4511	<input type="checkbox"/> SHZ-SHZ	<input type="checkbox"/> GREEN					
	<input type="checkbox"/> 900L-LUT2W ¹	<input type="checkbox"/> 1200L-LUT2W ¹	<input type="checkbox"/> 1500L-LUT2W ¹						<input type="checkbox"/> HH4-4522	<input type="checkbox"/> HH4-4528	<input type="checkbox"/> SHZ-WH	<input type="checkbox"/> FROST					
	<input type="checkbox"/> 900L-ELDO10-1 ²	<input type="checkbox"/> 1200L-ELDO10-1 ²	<input type="checkbox"/> 1500L-ELDO10-1 ²						<input type="checkbox"/> HH4-4523		<input type="checkbox"/> W-WH	<input type="checkbox"/> AL					
	<input type="checkbox"/> 900L-ELDODALI-1 ²	<input type="checkbox"/> 1200L-ELDODALI-1 ²	<input type="checkbox"/> 1500L-ELDODALI-1 ²						<input type="checkbox"/> HH4-4525		<input type="checkbox"/> MB-WH	<input type="checkbox"/> BZ					
	<input type="checkbox"/> 900L-ELDODMX-1 ²	<input type="checkbox"/> 1200L-ELDODMX-1 ²	<input type="checkbox"/> 1500L-ELDODMX-1 ²						<input type="checkbox"/> HH4-4541		<input type="checkbox"/> WT-WH	<input type="checkbox"/> WH					
	<input type="checkbox"/> 900L-ELDODMX-1 ²	<input type="checkbox"/> 1200L-ELDODMX-1 ²	<input type="checkbox"/> 1500L-ELDODMX-1 ²						<input type="checkbox"/> HH4-4577								
	2000L SERIES								OTHER OPTIONS								
	<input type="checkbox"/> 2000L-DIM10	<input type="checkbox"/> 3000L-DIM10							<input type="checkbox"/> CP-CHICAGO-PLENUM								
	<input type="checkbox"/> 2000L-DIMTR ¹	<input type="checkbox"/> 3000L-LUTH ²							<input type="checkbox"/> INTG (Reflector shipped with pre-punched hole to accept INTG-EMG-LED)								
	<input type="checkbox"/> 2000L-LUTH ²	<input type="checkbox"/> 3000L-LUT2W ¹							TRIMLESS TRIM OPTIONS								
<input type="checkbox"/> 2000L-LUT2W ¹	<input type="checkbox"/> 3000L-ELDO10-1 ²		<input type="checkbox"/> HH4-TL-4501														
<input type="checkbox"/> 2000L-ELDO10-1 ²	<input type="checkbox"/> 3000L-ELDODALI-1 ²		<input type="checkbox"/> CL														
<input type="checkbox"/> 2000L-ELDODALI-1 ²	<input type="checkbox"/> 3000L-ELDODMX-1 ²		<input type="checkbox"/> HH4-TL-4507														
<input type="checkbox"/> 2000L-ELDODMX-1 ²			<input type="checkbox"/> SHZ														

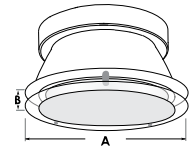
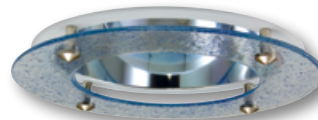
¹ LUT2W and DIMTR are available in 120V only ² LUTH, ELDO10-1, ELDODALI-1, and ELDODMX-1 are available in 120V and 277V ³ 50K series are available with 85+ CRI only ⁴ 98+ CRI is available in 27K, 30K and 40K only



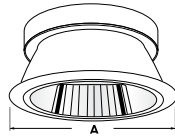
FOR
WET
LOCATION



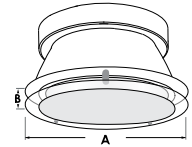
EXAMPLE: HH4-4501-CL-WH
HH4-4501 - REFLECTOR WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH
PATENT NO. D692,172
PATENT NO. D692,172



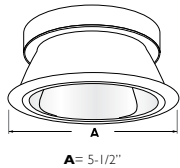
EXAMPLE: HH4-4521-CL-WH
HH4-4521 - STARDUST DECO RING GLASS WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH



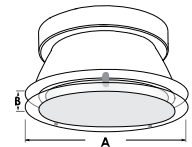
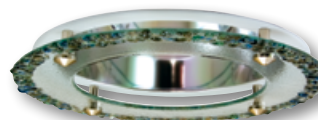
EXAMPLE: HH4-4507-CL-WH
HH4-4507 - WALL WASH REFLECTOR WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH
PATENT NO. D691,316



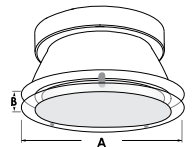
EXAMPLE: HH4-4523-CL-WH
HH4-4523 - PRISM DECO RING GLASS WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH



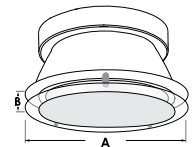
EXAMPLE: HH4-4577-CL-WH
HH4-4577 - DOUBLE WALL WASH REFLECTOR WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH



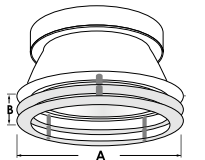
EXAMPLE: HH4-4522-CL-WH
HH4-4522 - EURO DECO RING GLASS WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH



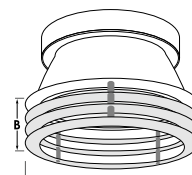
EXAMPLE: HH4-4509-CL-WH
HH4-4509 - DECO GLASS REFLECTOR WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH
GLASS FINISH:
BLUE, RED, GREEN, FROST



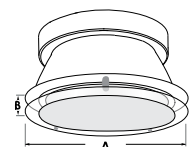
EXAMPLE: HH4-4525-CL-WH
HH4-4525 - CENTRAL ETCHED FLOAT GLASS WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH



EXAMPLE: HH4-4510-CL-WH
HH4-4510 - DOUBLE RING GLASS WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH
GLASS FINISH:
BLUE, RED, GREEN, FROST



EXAMPLE: HH4-4511-CL-WH
HH4-4511 - TRIPLE RING GLASS WITH DIFFUSE LENS
REFLECTOR/RING FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH
GLASS FINISH:
BLUE, RED, GREEN, FROST



EXAMPLE: HH4-4541
HH6-6541 - REFLECTOR WITH FROSTED CYLINDRICAL GLASS
REFLECTOR FINISH:
CL-WH SHZ-SHZ

EXAMPLE: HH4-4528
HH4-4528 - REFLECTOR WITH ALUMINIUM DISC AND DIFFUSE LENS
REFLECTOR FINISH:
CL-WH CL-SCH WT-WH SHZ-WH W-WH SHZ-SHZ MB-WH
DISC FINISH:
AL, WH, BZ

**ALUMINIUM
DISC**

LED
4"

4 INCH ARCHITECTURAL HIGH LUMEN LED OPTICS

EASYFIT

by EnOcean

Controls Options to be Installed on the Fixture

Self-powered sensors and switches, combined with LED fixture controllers and a commissioning tool, permit easy configuration, intelligent local control, and seamless integration into building automation systems.

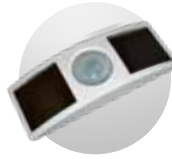


LEDRU
LED Relay Zone
Controller 0-10V



LEDDU
LED Zone
Controller 0-10V

Controls Provided by EnOcean



EOSCU
Occupancy Sensor
Ceiling Mount



EOSWU
Occupancy Sensor
Wall Mount



ELLSU
Daylight Sensor
Ceiling Mount



ESRPU/EDRPU
Wall Switches



LEVITON
Wall Switches
902 MHz category



NWC 300U
Navigan Wireless
Commissioner

PHILIPS

EasySense

Controls Installed on the Fixture



SRB

Fixture will be Shipped Sensor Ready with SRB Bridge. Fixture will be Compatible with EasySense Sensor SNS200-CMP which can be Added in the Field for Remote Mounting. Fixture May Only be Controlled with Philips Field App or Wireless Switches or any 0-10V. Wall Box Dimmer.



SRB + SNS200-CMP

Fixture Will be Shipped Sensor Ready with PHILIPS SRB Bridge and EasySense SNS200-CMP Sensor which is Included to be Remote Mounted. Fixture May Only be Controlled with Philips Field App or Wireless Switches or any 0-10V. Wall Box Dimmer.

Philips EasySense sensors provide luminaire-level control with Occupancy sensing, Daylight harvesting, and Field task tuning.

Controls Provided by Philips



ZBT-S1AWH



ZBT-S2AWH

Illumra Wireless Switches



Philips Field App

enlighted

Enlighted Smart Sensors features digital motion, ambient light, and temperature sensing, the device provides autonomous fixture-level control

Controls Installed on the Fixture



CU-E3-1R

Fixture Will be Shipped Sensor Ready with Enlighted CU-E3-1R Control Unit Power Pack. Fixture will be compatible with Enlighted SU-4E-00 Sensor which can be Added in the Field Remote Mounting. Fixture May be Controlled with Enlighted Gateway, Energy Manager or Enlighted Room Controller WS-2-00



CU-E3-1R + SU-4E-00

Fixture Will be Shipped with Enlighted CU-E3-1R Control Unit Power Pack installed and SU-4E-00 Sensor provided (to be installed remotely). Fixture May be Controlled with Enlighted Gateway, Energy Manager or Enlighted Room Controller WS-2-00

Controls Provided by Enlighted



Programmable with Laptop



PoE Network Switch



Energy Manager

WS-2-00
Enlighted Room
Controller




Switch




Gateway

LUTRON

Controls Installed on the Fixture



FCJS-010
Individual
Fixture Control




FCJS-ECO
Individual
Fixture Control


Fixture Will be Shipped LUTRON VIVE Enabled with LUTRON FCJS-010 0-10V Control Module Installed on the Fixture. Fixtures will be compatible with Lutron FC-SENSOR Occupancy/Daylight Sensor or FC-VSENSOR Vacancy/Daylight Sensor which can be Added in the Field for Remote Mounting. Fixture May be Controlled with any Vive control systems. Fixtures must be ordered with a 0-10V. Driver.

Fixture Will be Shipped LUTRON VIVE Enabled with LUTRON FCJS-ECO EcoSystem Control Module Control Module Installed on the Fixture. Fixtures will be compatible with Lutron FC-SENSOR Occupancy/Daylight Sensor or FC-VSENSOR Vacancy/Daylight Sensor which can be Added in the Field for Remote Mounting. Fixture May be Controlled with any Vive control systems. Fixtures must be ordered with a Lutron Driver.


Controls Provided by Lutron




Lutron App




Vive Wireless Hub




DayLight Sensor




Ceiling Mount Occupancy Sensor




Ceiling Mount Occupancy/Daylight Sensor



Wall Mount Occupancy Sensor




Wall Mount Switch




Pico Remote

LEVITON

Fixture will be shipped with Leviton ZL027-N0W power control module installed on the fixture. Fixtures will be compatible with Leviton ZL00J-D0W sensor control module which can be added in the field for remote mounting. Fixture must be controlled with Leviton Intellect Keypad Room Controller, or Leviton Neuron App.




ZL027-N0W
Power control module




ZL00J-D0W
Sensor control module


Leviton Keypad




ZLDNK-1W



ZLDNK-2W




ZLDNK-4W



ZLDNK-8W

Intellect™ Keypad Room Controller (Required)


Leviton App



Neuron App

legrand WATTSTOPPER®



Controls Installed on the Fixture



LMFC-011


Fixture Will be Shipped Legrand Wattstopper DLM Enabled with LMFC-011 Module Controller Installed on the Fixture. Fixtures will be compatible with Legrand Wattstopper DLM Load Controllers, DLM Sensors, DLM Switches, DLM Remote Control, and DLM Configuration tool.

Switches


LMSW-105 LMDM-101

Remote





LMRH-105

Configuration tool






LMCT-100-2

Plug Load Controllers

LMPL-101 LMPL-201

Sensors

LMDC-100 LMLS-400 LMLS-500

HH4-LED-900L-DIM10-120-ND-40K-HH4-4501-CL-WH

TEST NO.: **EL031664**

INPUT WATTS: **11.4**

LUMENS: **929**

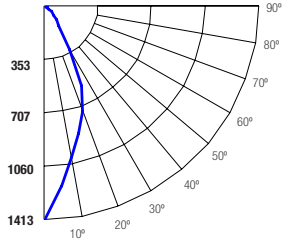
CRI: **90+**

EFFICACY: **82**

CCT: **4000K**

SPACING CRITERIA: **0.76**

Candle Power Distribution (Candelas)



Cone of Light		
4.0	86.7 fc	3.4 ft
8.0	21.7 fc	6.9 ft
12.0	9.63 fc	10.3 ft
16.0	5.42 fc	13.7 ft
20.0	3.47 fc	17.2 ft
24.0	2.41 fc	20.6 ft
Distance to Plane	Initial Footcandle at Nadir	Beam diameter

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

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	381.83	41.30	41.10
0-30	660.10	71.40	71.00
0-40	808.19	87.40	87.00
0-60	913.67	98.80	98.30
0-80	928.18	100.30	99.90
0-90	929.24	100.50	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average		
	0°	45°	90°
45	10112	11299	25238
55	3665	5100	7771
65	1432	1949	4235
75	644	869	1386
85	199	1267	1900

Lumens Per Zone

Zone	Lumens
0-10	117.48
10-20	264.35
20-30	278.27
30-40	148.09
40-50	75.00
50-60	30.49
60-70	11.34
70-80	3.17
80-90	1.06

Candela Tabulation

Q	0
0	1386.414
5	1209.284
15	869.472
25	595.787
35	149.878
45	72.409
55	21.290
65	6.127
75	1.687
85	0.176
90	0.052

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	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%				
0	120	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	100	100	100	100				
1	114	111	108	106	106	111	109	107	104	105	103	101	101	100	98	98	96	95	94	94	94	94				
2	108	103	99	95	95	106	101	98	94	98	95	92	95	92	90	92	90	88	87	87	87	87				
3	102	96	91	87	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80	80	80	80				
4	97	90	84	80	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75	75	75	75				
5	92	84	78	73	73	91	83	77	73	81	76	73	79	75	72	78	74	71	70	70	70	70				
6	88	79	73	68	68	86	78	72	68	76	71	68	75	71	67	74	70	67	65	65	65	65				
7	83	74	68	64	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61	61	61	61				
8	80	70	64	60	60	78	69	64	60	68	63	59	67	63	59	66	62	59	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				
10	72	63	57	53	53	71	62	57	53	62	56	53	61	56	53	60	56	53	51	51	51	51				

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

HH4-LED-1200L-DIM10-120-ND-40K-HH4-4501-CL-WH

TEST NO.: **EL031676**

INPUT WATTS: **16.1**

LUMENS: **1227**

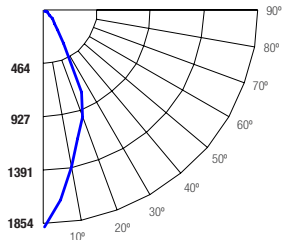
CRI: **90+**

EFFICACY: **76**

CCT: **4000K**

SPACING CRITERIA: **0.76**

Candle Power Distribution (Candelas)



Cone of Light		
4.0	116 fc	3.4 ft
8.0	29.0 fc	6.9 ft
12.0	12.9 fc	10.3 ft
16.0	7.24 fc	13.7 ft
20.0	4.64 fc	17.1 ft
24.0	3.22 fc	20.6 ft
Distance to Plane	Initial Footcandle at Nadir	Beam diameter

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

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	503.26	41.10	41.00
0-30	869.66	71.10	70.90
0-40	1065.68	87.10	86.90
0-60	1205.89	98.60	98.30
0-80	1225.38	100.20	99.90
0-90	1226.74	100.30	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average		
	0°	45°	90°
45	16715	17419	35299
55	5690	7583	11694
65	2262	2852	6340
75	1021	1288	2011
85	304	1751	2636

Lumens Per Zone

Zone	Lumens
0-10	155.89
10-20	347.37
20-30	366.41
30-40	196.01
40-50	99.31
50-60	40.90
60-70	15.25
70-80	4.24
80-90	1.36

Candela Tabulation

Q	0
0	1854.494
5	1627.106
15	1138.716
25	770.204
35	196.374
45	94.005
55	25.956
65	7.603
75	2.101
85	0.211
90	0.074

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	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%				
0	119	119	119	119	119	117	117	117	117	111	111	111	107	107	107	102	102	102	100	100	100	100				
1	114	111	108	106	106	111	109	106	104	105	103	101	101	100	98	97	96	95	93	93	93	93				
2	108	103	99	95	95	106	101	97	94	98	95	92	95	92	90	92	90	88	87	87	87	87				
3	102	96	91	87	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80	80	80	80				
4	97	89	84	79	79	95	88	83	79	86	82	78	84	80	77	82	79	76	75	75	75	75				
5	92	84	78	73	73	91	83	77	73	81	76	72	79	75	72	78	74	71	70	70	70	70				
6	88	79	73	68	68	86	78	72	68	76	71	67	75	70	67	73	70	67	65	65	65	65				
7	83	74	68	64	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61	61	61	61				
8	79	70	64	60	60	78	69	63	60	68	63	59	67	62	59	66	62	59	57	57	57	57				
9	76	66	60	56	56	75	66	60	56	65	59	56	64	59	56	63	59	55	54	54	54	54				
10	72	63	57	53	53	71	62	57	53	61	56	53	61	56	53	60	56	52	51	51	51	51				

RC - Ceiling Cavity Reflectance

RW - Wall Reflectance

HH4-LED-1500L-DIM10-120-ND-40K-HH4-4501-CL-WH

TEST NO.: **EL031677**

INPUT WATTS: **20.2**

LUMENS: **XX**

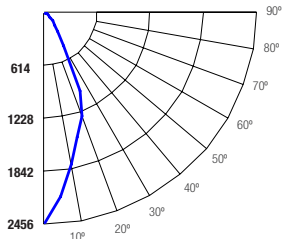
CRI: **90+**

EFFICACY: **80**

CCT: **4000K**

SPACING CRITERIA: **0.76**

Candle Power Distribution (Candelas)



Cone of Light		
4.0	154 fc	3.4 ft
8.0	38.4 fc	6.8 ft
12.0	17.1 fc	10.3 ft
16.0	9.60 fc	13.7 ft
20.0	6.14 fc	17.1 ft
24.0	4.26 fc	20.5 ft
Distance to Plane	Initial Footcandle at Nadir	Beam diameter

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

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	665.41	41.10	41.20
0-30	1147.9	70.90	71.00
0-40	1405.17	86.80	86.90
0-60	1588.89	98.20	98.30
0-80	1614.4	99.80	99.90
0-90	1616.19	99.90	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average		
	0°	45°	90°
45	22180	22848	45090
55	7594	9901	14778
65	3012	3718	8048
75	1354	1679	2606
85	413	2310	3410

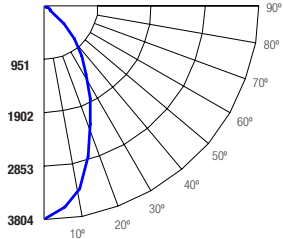
Lumens Per Zone

HH4-LED-3000L-DIM10-120-ND-40K-HH4-4501-CL-WH

TEST NO.: **EL0116150**

INPUT WATTS: **32.8** LUMENS: **3005** CRI: **90+** EFFICACY: **92** CCT: **4000K** SPACING CRITERIA: **0.80**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	1123.13	37.70	37.40
0-30	1913.31	64.20	63.70
0-40	2585.46	86.80	86.00
0-60	2975.92	99.90	99.00
0-80	3003.51	100.80	99.90
0-90	3005.39	100.90	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average		
	0°	45°	90°
45	74989	88455	34778
55	16574	17916	13058
65	8690	7182	2802
75	2402	2449	1514
85	4036	3617	720

Lumens Per Zone

Zone	Lumens
0-10	341.40
10-20	781.74
20-30	790.17
30-40	672.15
40-50	315.71
50-60	74.76
60-70	22.62
70-80	4.97
80-90	1.88

Candela Tabulation

0	0		
0	3803.556		
5	3607.773		
15	2781.842		
25	1814.765		
35	1067.613		
45	421.732		
55	75.607		
65	29.210		
75	4.944		
85	2.798		
90	1.717		

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	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%				
0	120	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	101							
1	114	111	109	106	106	112	109	107	105	105	105	103	101	98	98	97	96	94								
2	108	103	99	95	95	106	101	97	94	98	95	92	89	88	87	84	82	80								
3	102	96	90	86	86	100	94	89	86	92	87	84	81	80	78	75	74									
4	97	89	83	79	79	95	88	82	78	86	81	77	74	73	71	70	68									
5	92	83	77	72	72	90	82	76	72	80	75	71	68	67	65	63	61									
6	87	78	71	67	67	85	77	71	67	75	70	66	64	63	61	59	57									
7	82	73	66	62	62	81	72	66	62	71	65	61	59	58	56	54	52									
8	78	68	62	58	58	77	68	62	58	67	61	57	55	54	52	50	48									
9	74	64	58	54	54	73	64	58	54	63	57	53	51	50	48	46	44									
10	71	61	55	51	51	70	60	55	51	60	54	50	48	47	45	43	41									

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Cone of Light		
4.0	238 fc	3.5 ft
8.0	59.4 fc	7.0 ft
12.0	26.4 fc	10.5 ft
16.0	14.9 fc	14.0 ft
20.0	9.51 fc	17.5 ft
24.0	6.60 fc	20.9 ft
Distance to Plane	Initial Footcandle at Nadir	Beam diameter

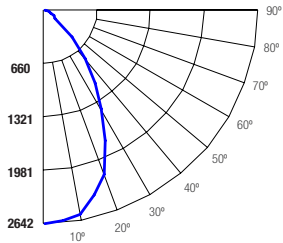
BEAM DIA. MEASURED AT 50% OF NADIR F.C.

HH4-LED-3000L-DIM10-120-MD-40K-HH4-4501-CL-WH

TEST NO.: **EL0116149**

INPUT WATTS: **32.2** LUMENS: **2866** CRI: **90+** EFFICACY: **89** CCT: **4000K** SPACING CRITERIA: **0.96**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	913.36	32.00	31.90
0-30	1713.57	60.10	59.80
0-40	2378.95	83.50	83.00
0-60	2831.28	99.30	98.80
0-80	2864.49	100.50	99.90
0-90	2866.31	100.60	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average		
	0°	45°	90°
45	84989	91860	64194
55	27758	30062	16352
65	13771	8481	2741
75	2400	2530	1496
85	3767	3438	734

Lumens Per Zone

Zone	Lumens
0-10	248.29
10-20	665.07
20-30	800.22
30-40	665.38
40-50	351.62
50-60	100.71
60-70	28.09
70-80	5.12
80-90	1.81

Candela Tabulation

0	0		
0	2641.887		
5	2619.030		
15	2365.397		
25	1788.328		
35	1100.310		
45	477.969		
55	126.629		
65	46.289		
75	4.941		
85	2.611		
90	1.433		

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	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%				
0	120	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	101							
1	114	111	108	105	105	111	108	106	104	104	104	102	101	99	98	97	96	95								
2	107	102	98	94	94	105	100	96	93	97	94	91	89	88	87	84	82	80								
3	101	94	89	84	84	99	93	88	84	90	86	82	80	79	78	75	74	73								
4	95	87	81	76	76	94	86	80	76	84	79	75	72	71	70	68	67	66								
5	90	81	74	70	70	88	80	74	69	78	73	69	67	66	64	62	61	60								
6	85	75	69	64	64	83	74	68	64	73	67	63	61	60	58	56	55	54								
7	80	70	64	59	59	79	69	63	59	68	62	58	56	55	53	51	50	49								
8	76	66	59	55	55	75	65	59	54	64	58	54	52	51	49	47	46	45								
9	72	61	55	51	51	71	61	55	51	60	54	50	48	47	45	43	42	41								
10	68	58	51	47	47	67	57	51	47	56	51	47	45	44	42	40	39	38								

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Cone of Light		
4.0	165 fc	4.8 ft
8.0	41.3 fc	9.7 ft
12.0	18.3 fc	14.5 ft
16.0	10.3 fc	19.3 ft
20.0	6.60 fc	24.2 ft
24.0	4.59 fc	29.0 ft
Distance to Plane	Initial Footcandle at Nadir	Beam diameter

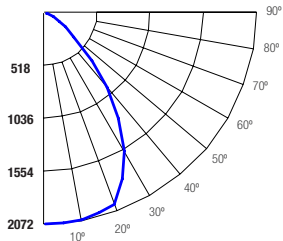
BEAM DIA. MEASURED AT 50% OF NADIR F.C.

HH4-LED-3000L-DIM10-120-WD-40K-HH4-4501-CL-WH

TEST NO.: **EL0116153**

INPUT WATTS: **32.2** LUMENS: **2832** CRI: **90+** EFFICACY: **88** CCT: **4000K** SPACING CRITERIA: **1.06**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	761.77	27.00	26.90
0-30	1537.89	54.50	54.30
0-40	2228.83	79.00	78.70
0-60	2787.12	98.80	98.40
0-80	2830.22	100.40	99.90
0-90	2832.13	100.40	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average		
	0°	45°	90°
45	114131	111430	87339
55	55994	43204	21948
65	26783	10772	2851
75	2855	2938	1563
85	4342	3826	746

Lumens Per Zone

Zone	Lumens
0-10	195.55
10-20	566.23
20-30	776.11
30-40	690.94
40-50	415.43
50-60	142.87
60-70	37.55
70-80	5.56
80-90	1.91

Candela Tabulation

0	0		
0	2045.428		
5	2038.628		
15	2009.510		
25	1768.441		
35	1249.304		
45	641.863		
55	255.440		
65	90.025		
75	5.878		
85	3.010		
90	1.571		

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	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%				
0	120	120	120	120	120	117	117	117	117	112	112	112	107	107	107	102	102	102	100							
1	113	110	107	105	105	111	108	105	103	104	102	100	100	98	97	96	95	94								
2	106	101	96	92	92	104	99	95	91	96	92	89	87	86	84	82	80	78								
3	100	93	87	82	82	98	91	86	82	88	84	80	78	77	75	73	71	70								
4	94	85	79	74	74	92	84	78	73	82	77	73	71	70	68	66	64	63								
5	88	79	72	67	67	86	78																			