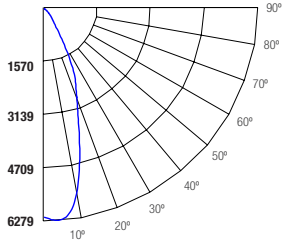


HH4-LED-3000L-DIM10-MVOLT-ND-40K-80-HH4-4501-CL-WH

TEST NO.: **EL011931**

INPUT WATTS: **32.5** LUMENS: **3394** CRI: **80** EFFICACY: **104** CCT: **4000K** SPACING CRITERIA: **0.88**

Candle Power Distribution (Candelas)



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°	45°	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

Cone of Light

	2	4	6	8	10	12
1543	1.4	1.4				
386	2.8	2.7				
171	4.2	4.1				
96.4	5.6	5.5				
61.7	7	6.8				
42.9	8.5	8.2				

(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	RW	80%				70%				50%				30%				10%				0%			
		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	111	106	106	106	102	102	102	100	100	100			
	1	114	111	109	107	111	109	107	105	105	103	102	101	101	100	99	98	97	96	94	94	94			
	2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88	88	88	88			
	3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83	85	83	83			
	4	99	92	87	83	97	91	86	82	89	85	81	87	83	80	85	82	80	78	80	78	78			
	5	94	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74	76	74	74			
	6	90	82	77	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70	71	70	70			
	7	86	78	72	68	85	77	72	68	76	71	68	75	71	67	74	70	67	66	67	66	66			
	8	83	74	68	65	82	73	68	65	72	68	64	71	67	64	70	67	64	62	64	62	62			
	9	79	70	65	61	78	70	65	61	69	64	61	68	64	61	67	63	61	59	61	59	59			
	10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	65	61	58	57	58	57	57			

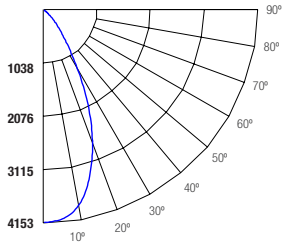
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

HH4-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)



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°	45°	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	260.76
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

Cone of Light

	2	4	6	8	10	12
1038	1.9	1.9				
260	3.9	3.8				
115	5.8	5.7				
64.9	7.7	7.6				
41.5	9.6	9.5				
28.8	11.6	11.4				

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

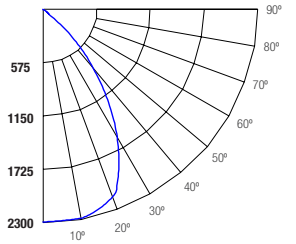
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

HH4-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)



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

Lumens Per Zone

Zone	Lumens
0-10	216.98
10-20	631.22
20-30	875.76
30-40	746.78
40-50	365.81
50-60	81.17
60-70	21.33
70-80	4.50
80-90	1.80

Candela Tabulation

0	0
0	2266.06
5	2267.18
15	2253.87
25	1927.37
35	1137.92
45	350.17
55	41.18
65	9.35
75	2.69
85	0.38
90	0.14

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

Cone of Light

	2	4	6	8	10	12
567	2.7	2.9				
142	5.4	5.9				
62.9	8.1	8.8				
35.4	10.7	11.7				
22.7	13.4	14.6				
15.7	16.1	17.6				

(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	RW	80%				70%				50%				30%				10%				0%			
		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															

- 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 <small>by EnOcean</small>	LUTRON	enlighted	LEVITON®	OSRAM	PHILIPS <small>EasySense</small>	legrand®
CONTROL UNIT	<input type="checkbox"/> LEDRU LED Relay Zone Controller 0-10V ¹ <input type="checkbox"/> LEDDU LED 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"/> FCJS-ECO Lutron Vive Eco-system 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"/> ZL027 –NOW Intellect Power Control Module ¹⁶	<input type="checkbox"/> EN-WCM2-ZB-DR Wireless Control Module ¹⁷ <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	<input type="checkbox"/> SBR -BS Xitanium SR Bridge ¹⁸	<input type="checkbox"/> LMFC-011 ON/OFF/0-10V dimming fixture controller ¹⁹
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	<input type="checkbox"/> EOSCU-W-E0 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-E0 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.