

**PHILIPS**  
**Day-Brite**  
**CFI**

Recessed

HP90 LED 2x4

3000, 3700, or 4100 lumens



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

The Philips Day-Brite / Philips CFI HP90 LED recessed family is one of our popular soft light collection of luminaires. This is the first introduction of LED with a direct/indirect appearance utilizing highly reflective paint on the soft contoured reflectors and high light transmission linear prismatic lens to enclose the LEDs.

**Ordering guide**

**Example: HLS24GLR30L40ULAG**

Family	Air Function	Fixture Size	Ceiling Type	Diffuser	Lumen Package	Color Temp.	Voltage	Driver Type	Options
<input type="text" value="HL"/>	<input type="text" value="S"/>	<input type="text" value="24"/>	<input type="text" value="G"/>	<input type="text" value="LR"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="-"/>	<input type="text"/>
<b>HL</b> HP90 direct-indirect recessed	<b>S</b> Static	<b>24</b> 2'x4'	<b>G</b> Fits both standard and slot grid  Consult factory for other ceiling systems.	<b>LR</b> Linear prismatic lens	<b>30L</b> 3000 lumens <b>37L</b> 3700 lumens <b>41L</b> 4100 lumens  4000K represented (Approximate delivered values. Consult IES file)	<b>35</b> 3500K <b>40</b> 4000K <b>50</b> 5000K  Consult representative for other color temperature options. (Approximate values. Consult IES file.)	<b>U</b> Universal voltage 120-277V  <b>3</b> 347V	<b>LAG</b> Standard driver <b>DZT</b> 0-10V dimming <b>SZT</b> Step dimming to 40% input power	<b>F1</b> 3/8" flex, 3 wire 18 gauge 6' <b>F2</b> 3/8" flex, 4 wire 18 gauge 6' <b>F1/D</b> 3/8" twin flex, 3 wire 18 gauge 6' for dimmable luminaires <b>F2/SW</b> 3/8" single flex, 5 wire 18 gauge 6' for dimmable luminaires <b>GLR</b> Fusing, fast blow <b>EMLED</b> Integral emergency battery pack <b>CHIC</b> Chicago Plenum rated

**Accessories (order separately)**

- **FMA24** – 2'x4' "F" mounting frame for NEMA "F" installations

# HLS HP90 LED recessed 2x4

3000, 3700, or 4100 lumens

## Features

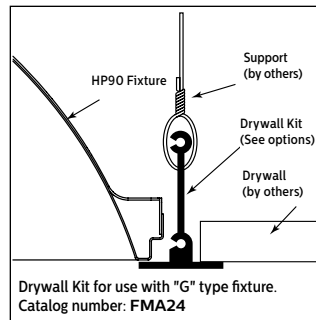
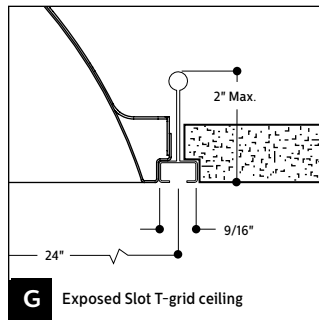
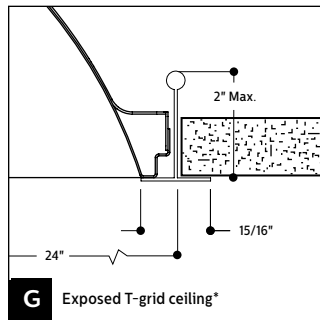
- Direct/indirect appearance with soft contoured interior.
- Translucent DR acrylic high light transmission linear prismatic lens.
- Field replaceable LED array and driver accessible from below.
- Predicted L70 lifetime is based on LED manufacturer's supplied LM-80 data and in-situ laboratory testing.
- Integrated thermal management system conducts heat away from LEDs and transfers it to the surrounding environment.
- High efficiency LEDs have 50,000 hour rated life at L70.
- Lens encloses light source compartment.
- Lamp shield opens from either side.
- Tension screws secure ends to body.
- Same fixture fits both G and Slot T ceiling types.
- Fits flush to face of slot grid (T) ceiling types.
- Suitable for continuous row mounting.
- Five-year warranty on luminaire, LED boards and driver.
- DLC Listed. Please check the DLC Qualified Products List to confirm ([www.designlights.org/QPL](http://www.designlights.org/QPL)).

- Many luminaire components, such as reflectors, refractors, lenses, sockets, lamp holders, and LEDs are made from various types of plastics which can be adversely affected by airborne contaminants. If sulfur based chemicals, petroleum based products, cleaning solutions, or other contaminants are expected in the intended area of use, consult factory for compatibility.

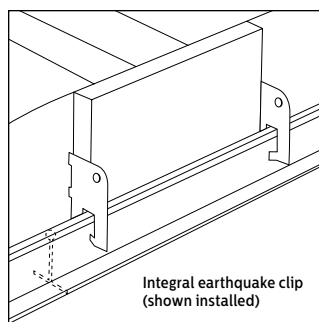
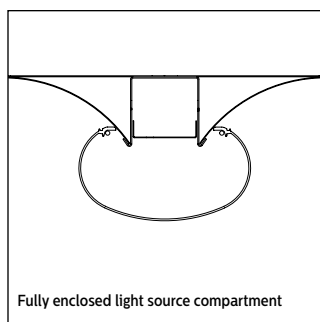
## Specifications

- **Materials:** Chassis parts—Die-formed code gauge cold rolled steel.
- **Finish:** Chassis exterior—White baked polyester enamel. Cavity—White baked polyester enamel. Rust preventative undercoating.
- **Lens:** LR—Linear prismatic translucent DR acrylic lens.
- **Electrical:** LED boards and drivers are RoHS (Restriction of Hazardous Substances) compliant.
- **Labels:** cULus listed for damp locations.

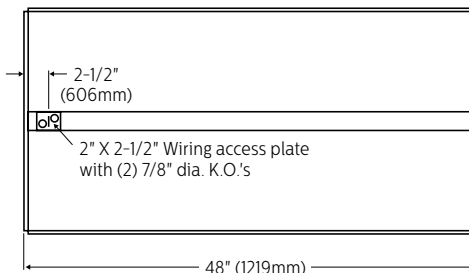
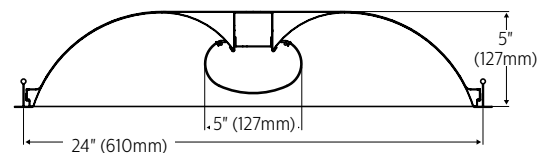
## Mounting methods



\* For flush mounting when using 9/16" Exposed T-Grid ceiling system consult factory



## Dimensions



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## Additional ordering information

Catalog Number	Delivered Lumens	Input Watts	Lumens per Watt	Average initial 8'X8' footcandles	8'X8' Watts per sq. foot	Average initial 8'X10' footcandles	8'X10' Watts per sq. foot
HLS24GLR30L40ULAG	2961	30.8	96.1	46	0.48	37	0.38
HLS24GLR37L40ULAG	3665	40.0	91.6	57	0.62	46	0.50
HLS24GLR41L40ULAG	4090	46.0	88.9	64	0.72	51	0.58
HLS24GLR30L35ULAG	2980	31.2	95.5	47	0.49	37	0.38
HLS24GLR37L35ULAG	3679	40.4	91.1	57	0.63	46	0.50
HLS24GLR41L35ULAG	4118	46.6	88.4	64	0.73	51	0.57

## Photometry – 4000K CCT

Report number<sup>1</sup>: G2012101  
 Catalog number: HLS24GLR41L40ULAG  
 Delivered lumens: 4090  
 Color<sup>2</sup>: 3979K  
 Input watts: 45.0  
 Efficacy: 87.0 lm/w  
 CRI: 88.9  
 Lamp: LED  
 Luminaire: HP90 recessed LED  
 2' x 4' fixture with linear prismatic lens.

CIE Type: Direct  
 Plane: 0-Deg. 90-Deg.  
 Spacing criteria: 1.2 1.3  
 Plane: 0-Deg. 90-Deg.  
 Luminous length: 47.040 23.040

## Candela distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0°	45°	90°	
0	1377	1377	1377	130
5	1360	1371	1378	130
15	1296	1319	1336	373
25	1177	1221	1258	563
35	1014	1083	1143	678
45	823	919	1002	708
55	620	737	841	657
65	416	549	664	540
75	216	355	436	356
85	49	72	43	84
90	6	6	6	6

<sup>1</sup> Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

<sup>2</sup> Correlated Color Temperature within specs as defined in ANSI\_NEMA\_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

## Coefficients of utilization

Ceiling	80%			50%			30%			
	70	50	30	50	30	10	50	30	10	
Wall	Zonal Cavity Method									
RC	Effective Floor Reflectance = 20%									
RW										
Room Cavity Ratio	1	108	103	99	97	93	90	93	90	87
	2	98	89	82	84	78	74	81	76	72
	3	89	78	70	73	67	61	71	65	60
	4	81	69	60	65	58	52	63	56	51
	5	75	62	52	58	51	45	56	49	44
	6	69	55	46	53	45	39	51	44	39
	7	64	50	41	48	40	34	46	39	34
	8	59	46	37	44	36	31	42	36	31
	9	56	42	34	40	33	28	39	32	28
	10	52	39	31	37	30	25	36	30	25

## Zonal lumen summary\*

Zone	Lumens	% Lamp	% Fixt.
0-30	1066	26.1	26.1
0-40	1744	42.6	42.6
0-60	3109	76	76
0-90	4090	100.0	100.0

\*Total Efficiency

## Avg. Luminance (cd/m<sup>2</sup>)

Vertical Angle	Horizontal Angle		
	0°	45°	90°
45	1664	1858	2026
55	1545	1837	2096
65	1407	1857	2246
75	1193	1961	2408
85	804	1181	705

## Photometry – 3500K CCT

Report number<sup>1</sup>: G2012104  
 Catalog number: HLS24GLR41L35ULAG  
 Delivered lumens: 4118  
 Color<sup>2</sup>: 3437K  
 Input watts: 45.0  
 Efficacy: 88.4 lm/w  
 CRI: 83.8  
 Lamp: LED  
 Luminaire: HP90 recessed LED  
 2' x 4' fixture with linear prismatic lens.

CIE Type: Direct  
 Plane: 0-Deg. 90-Deg.  
 Spacing criteria: 1.2 1.3  
 Plane: 0-Deg. 90-Deg.  
 Luminous length: 47.040 47.040

## Candela distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0°	45°	90°	
0	1377	1377	1377	130
5	1361	1371	1377	130
15	1296	1319	1336	373
25	1176	1220	1258	563
35	1011	1083	1147	678
45	820	919	1009	708
55	616	739	847	659
65	412	553	673	544
75	215	365	457	368
85	49	94	68	96
90	6	6	6	6

<sup>1</sup> Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

<sup>2</sup> Correlated Color Temperature within specs as defined in ANSI\_NEMA\_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

## Coefficients of utilization

Ceiling	80%			50%			30%			
	70	50	30	50	30	10	50	30	10	
Wall	Zonal Cavity Method									
RC	Effective Floor Reflectance = 20%									
RW										
Room Cavity Ratio	1	108	103	98	96	93	90	93	90	87
	2	98	89	82	84	78	73	80	76	72
	3	89	78	69	73	66	61	70	65	60
	4	81	69	60	65	57	52	63	56	51
	5	75	61	52	58	50	44	56	49	44
	6	69	55	46	52	45	39	51	44	38
	7	64	50	41	48	40	34	46	39	34
	8	59	46	37	43	36	31	42	35	30
	9	55	42	33	40	33	28	39	32	27
	10	52	39	30	37	30	25	36	29	25

## Zonal lumen summary\*

Zone	Lumens	% Lamp	% Fixt.
0-30	1065	25.9	25.9
0-40	1743	42.3	42.3
0-60	3111	75.5	75.5
0-90	4118	100.0	100.0

\*Total Efficiency

## Avg. Luminance (cd/m<sup>2</sup>)

Vertical Angle	Horizontal Angle		
	0°	45°	90°
45	1658	1858	2040
55	1535	1842	2111
65	1394	1871	2277
75	1188	2016	2524
85	804	1542	1115

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