

## DESCRIPTION - H4 LED 2nd GENERATION ADJUSTABLE GIMBALS

Halo H4 LED Adjustable Gimbals, ELG406 series, combine an adjustable gimbal trim and LED light engine for use with H457 series housings. The H4 LED adjustable gimbals feature 35° tilt and offer interchangeable optics with three beam distributions of 25°, 35°, and 50°. H4 LED 2nd Generation offers 90 CRI color rendering index and four color temperatures 2700K, 3000K, 3500K, 4000K. Three high-quality trim finishes of White, Satin Nickel, and Tuscan Bronze are available. Halo LED offers high quality, fit, finish, and performance in an energy-efficient, high-efficacy gimbal.

## SPECIFICATION FEATURES

### MECHANICAL

#### Heat Sink

- Durable aluminum construction.
- Conducts heat away from the LED keeping the junction temperatures below specified maximums, even when installed in insulated ceiling housings.

#### Gimbal

- Precision designed fit and finish
- Die-cast aluminum with snap-in front loading ring allowing interchange of beam forming reflectors
- Gimbal front ring holds one lens media. Clear glass lens is included. Optional lens media such as L111 soft focus may be used in place of clear glass lens.
- 35° tilt adjustment with friction fit to heat sink.
- Smooth travel from nadir to 35°
- Works with the upper heat sink for thermal conduction away from the LED

### MOUNTING

#### Friction Blades

- Precision formed steel spring blades provide retention of the light engines in the H4 LED series housings.
- Friction blade design allows the light engine to be installed in any position within the housing aperture (360 degrees).

### ELECTRICAL

#### LED Connection

- LED connector is non-screw base offering easy installation with the H457 Series housings.
- LED connector is compliant with high-efficacy luminaire code requirements as a non-screw base socket.
- Separate grounding cable included on the module for attachment to the housing during installation.

#### Finish Options

WH = White

SN = Satin Nickel

TBZ = Tuscan Bronze

### OPTICS

- Three beam distribution options with interchangeable round beam forming reflectors
- Gimbal is supplied with 25° reflector pre-installed
- Reflector options: 25°, 35°, 50° beam angle (TL412RK kit)
- Clear glass cover lens included with gimbal. One optional accessory lens may be used in place of clear lens.
- Reflector and lens are accessible behind the gimbal's snap-in front ring.

#### Optical Accessory Reflector Kit -- TL412RK

- Includes all three reflector options
- 25° beam angle reflector (one is included with gimbal)
- 35° beam angle reflector
- 50° beam angle reflector

### COLOR SPECIFICATION & QUALITY STANDARDS

- LED is a chip on board design consisting of a multiple LED package with proximity phosphor coating to create one virtual white light source for a productive "cone of light"
- Halo employs a tight chromaticity specification and LED color binning process to ensure LED color uniformity, sustainable Color Rendering Index (CRI) and Correlated Color Temperature (CCT) consistency over the useful life of the LED
- Halo H4 LED chromaticity specification is 3SDCM initial and 5SDCM at rated life, which exceeds ENERGY STAR® SSL color standards (as per ANSI 78.377-2008).
- Every Halo LED Module is quality tested and performance measured on the production line, and then serialized to register lumens, wattage, CRI and CCT.

Catalog #		Type
Project		
Comments		Date
Prepared by		

- Halo LED serialized testing and measurement process further ensures color and lumen consistency to meet stringent Cooper Lighting specifications and exceed ENERGY STAR® SSL standards.
- Halo LED Modules and light engines include Color Rendering Index and Correlated Color Temperature in the model number.  
Example: ELG406940WH

9

40

>90 CRI 4000K nominal CCT

### QUALIFICATION

- Halo LED offers the choice of four correlated color temperatures: 2700K, 3000K, 3500K, 4000K
- 90 CRI
- ENERGY STAR® Qualified as used with designated LED trims\*
- Can be used to meet State of California Title 24, Washington State Energy Code - WSEC, and International Energy Conservation Code - IECC, High Efficacy requirements when used with designated LED trims\*
- LED emits no ultraviolet and minimal infrared wavelengths
- ROHS compliant
- Damp location listed with H457 LED housings
- Electrical/Energy Data refer to H457 LED housings (LED driver is fixed in housing)

### Dimming

- The HALO H4 LED luminaires are dimmable. Refer to H457 housing specifications and consult dimmer manufacturers for compatibility and loading.

### Warranty

Cooper Lighting provides a five year limited warranty on Halo LED Luminaires which includes the LED Recessed Housing, LED Light Engine, and LED trims. (Subject to all of the limitations set forth in Cooper Lighting Terms and Conditions of sale. Refer to www.cooperlighting.com.)



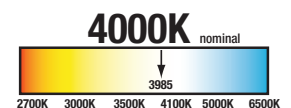
## H4 LED Gimbal 2nd Generation 4000K

ELG406940WH  
ELG406940SN  
ELG406940TBZ

4-Inch LED Adjustable  
Gimbal Trim &  
Light Engine

FOR USE WITH H457  
Series 4" LED Housings

High Efficacy LED



ELG406940WH  
ELG406940SN  
ELG406940TBZ

4" Gimbal Light Engine -  
4000K

Color Rendering Index  
(CRI, Ra): 90

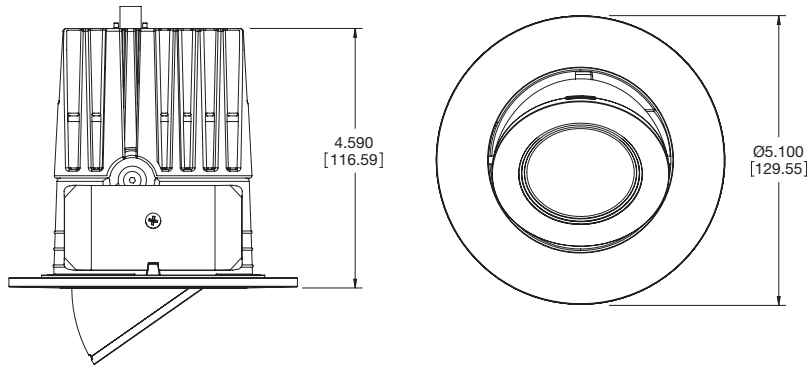


Cooper Lighting

by E.T.N

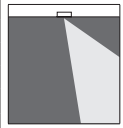
\*Qualified and Compliant. Refer to ENERGY STAR® Qualified Products List and CEC (T24) Appliance Database for listings.

## Dimensions



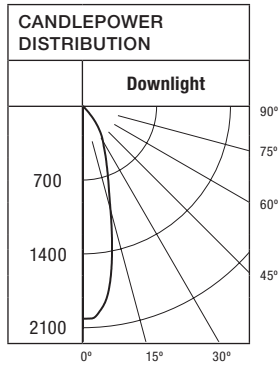
## H4 LED 2nd Generation Round Gimbal Photometry

ELG406940WH (White) - (25° BEAM - 0° TILT)	
Test Number	P123769
LED Module	ELG406940
Trim	4" Round gimbal / LED light engine
Lumens	71.5 Lm/W
CCT	4000K
SC	0.5 / 0.5 / 0.56



LUMINANCE DATA	
Angle	0°
45	27126
55	8985
65	2201
75	1797
85	5335

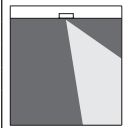
ZONAL LUMEN SUMMARY		
Zone	Lumens	%Fixture
0-30	696	74.8
0-40	864	92.9
0-60	925	99.5
0-90	930	100.0
90-180	0	0.0
0-180	930	100.0



0° HORIZONTAL PLANE			
D	FC	L	W
5.5'	66.6	2.6	2.6
7'	41.1	3.4	3.4
8'	31.5	4	4
9'	24.9	4.4	4.4
10'	20.2	5	5
12'	14	6	6

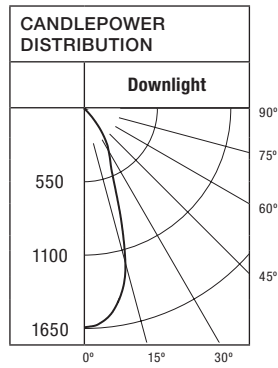
30° VERTICAL PLANE				
D	FC	L	W	CB
2'	103.8	2.7	1.4	3.5
3'	46.1	4.1	2.2	5.2
4'	26	5.6	3	6.9
5'	16.6	7	3.8	8.7
6'	11.5	8.4	4.6	10.4
8'	6.5	11.2	6.2	13.9
10'	4.2	14	7.6	17.3
12'	2.9	16.9	9.2	20.8

ELG406940WH (White) - (35° BEAM - 0° TILT)	
Test Number	P123793
LED Module	ELG406940
Trim	4" Round gimbal / LED light engine
Lumens	70 Lm/W
CCT	4000K
SC	0.64 / 0.64 / 0.62



LUMINANCE DATA	
Angle	0°
45	24606
55	4121
65	2201
75	0
85	5335

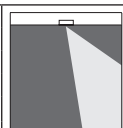
ZONAL LUMEN SUMMARY		
Zone	Lumens	%Fixture
0-30	697	76.6
0-40	860	94.5
0-60	907	99.7
0-90	910	100.0
90-180	0	0.0
0-180	910	100.0



0° HORIZONTAL PLANE			
D	FC	L	W
5.5'	54.2	3.4	3.4
7'	33.5	4.4	4.4
8'	25.6	5	5
9'	20.3	5.6	5.6
10'	16.4	6.2	6.2
12'	11.4	7.6	7.6

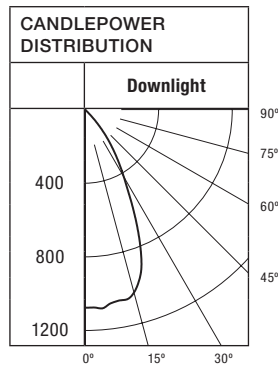
30° VERTICAL PLANE				
D	FC	L	W	CB
2'	106	2.4	1.6	3.5
3'	47.1	3.6	2.6	5.2
4'	26.5	4.8	3.4	6.9
5'	17	6	4.2	8.7
6'	11.8	7.2	5.2	10.4
8'	6.6	9.6	7	13.9
10'	4.2	12	8.6	17.3
12'	2.9	14.4	10.4	20.8

ELG406940WH (White) - (50° BEAM - 0° TILT)	
Test Number	P123817
LED Module	ELG406940
Trim	4" Round gimbal / LED light engine
Lumens	69.2 Lm/W
CCT	4000K
SC	0.88 / 0.89 / 0.82



LUMINANCE DATA	
Angle	0°
45	27980
55	3097
65	2802
75	0
85	0

ZONAL LUMEN SUMMARY		
Zone	Lumens	%Fixture
0-30	682	75.7
0-40	853	94.8
0-60	898	99.7
0-90	900	100.0
90-180	0	0.0
0-180	900	100.0



0° HORIZONTAL PLANE			
D	FC	L	W
5.5'	35.6	4.8	4.8
7'	22	6	6.2
8'	16.8	7	7
9'	13.3	7.8	7.8
10'	10.8	8.8	8.8
12'	7.5	10.6	10.6

35° VERTICAL PLANE				
D	FC	L	W	CB
2'	101.4	1.8	2	3.5
3'	45.1	2.8	3	5.2
4'	25.4	3.8	4	6.9
5'	16.2	4.7	5	8.7
6'	11.3	5.7	6	10.4
8'	6.3	7.6	8	13.9
10'	4.1	9.6	10	17.3
12'	2.8	11.5	12	20.8

## H4 LED 2nd Generation Round Gimbal - Lumen and Compliance Summary

H4 LED 2nd Generation Round Gimbal Collection		H4 LED Round Gimbal ELG406927 - 2700K				H4 LED Round Gimbal ELG406930 - 3000K				H4 LED Round Gimbal ELG406935 - 3500K				H4 LED Round Gimbal ELG406940 - 4000K			
Trim Type	Trim Model	LUMENS (1)	ENERGY STAR (2)	California T24 (3)	IECC & WSEC (4)	LUMENS (1)	ENERGY STAR (2)	California T24 (3)	IECC & WSEC (4)	LUMENS (1)	ENERGY STAR (2)	California T24 (3)	IECC & WSEC (4)	LUMENS (1)	ENERGY STAR (2)	California T24 (3)	IECC & WSEC (4)
4" Round Adjustable Gimbal Trim / Light Engine, White	ELG4069xxWH	750	Yes	Yes	Yes	840	Yes	Yes	Yes	880	Yes	Yes	Yes	930	Yes	Yes	Yes
4" Round Adjustable Gimbal Trim / Light Engine, Satin Nickel & Tuscan Bronze	ELG4069xx-SN/TBZ	700	Yes	Yes	Yes	790	Yes	Yes	Yes	830	Yes	Yes	Yes	880	Yes	Yes	Yes

(1) Adjustable gimbal trims are tested with the included 25 degree beam reflector, in accordance with IES LM-79 Photometric Measurement Standards measured at Nadir. Field results may vary.

(2) Tested and qualified to ENERGY STAR® standards, consult the ENERGY STAR® Qualified Products List

(3) May be used for California Title 24 compliance, and registered with State of California; consult the CEC Title 20 Appliance Database

(4) May be used for IECC - International Energy Conservation Code and WSEC - Washington State Energy Code

Gimbal Finish Codes

WH = White

SN = Satin Nickel

TBZ = Tuscan Bronze

## Ordering Information - H4 LED Adjustable Gimbals

**SAMPLE NUMBER:** ELG406940TBZ

Complete unit includes LED housing, light engine and trim; ordered separately.

H4 LED Housing		H4 LED Light Engine			Optional Accessory Reflector Kit	Optional Len Media
		CRI	CCT	Finish	(order separately)	(order separately)
<b>H457ICAT1E</b> = 4" Dedicated LED Insulated Ceiling AIR-TITE™ Housing, 120V Driver with LE/TE* phase control dimming capable  <b>H457RICAT1E</b> = 4" Dedicated LED Insulated Ceiling AIR-TITE™ Remodel Housing, 120V Driver with with LE/TE* phase control dimming capable  <b>H457TATE010</b> = 4" Dedicated LED Non-IC AIR-TITE™ Housing, 120V-277V Driver with LE/TE* phase control and 0-10V dimming capable  <b>H457TCPE010</b> = 4" Chicago Plenum Dedicated LED Non-IC AIR-TITE™ Housing, 120V-277V Driver with LE/TE* phase control and 0-10V dimming capable  <b>H457RTATE010</b> = 4" Dedicated LED Non-IC AIR-TITE™ Remodel Housing, 120V-277V Driver with LE/TE* phase control and 0-10V dimming capable	<b>ELG406</b> = Round LED Adjustable Gimbal Light Engine - 2nd Generation	<b>9</b> = 90 CRI	<b>27</b> = 2700K <b>30</b> = 3000K <b>35</b> = 3500K <b>40</b> = 4000K	<b>WH</b> = White <b>SN</b> = Satin Nickel <b>TBZ</b> = Tuscan Bronze	<b>TL412RK</b> includes: • 25° reflector (one is included with gimbal) • 35° reflector • 50° reflector TL412RK is for use with ELGxx and ELSGxx gimbals only.	One lens media may be used in place of clear lens. Optical Lenses <b>L110</b> = Diffuse Sand Blasted Lens <b>L111</b> = Soft Focus Textured Lens <b>L113</b> = Prismatic Lens <b>L115</b> = Linear Spread Lens  Dichroic Color Films <b>L114</b> = UV Filter <b>L120</b> = Red <b>L121</b> = Amber <b>L122</b> = Yellow <b>L123</b> = Green <b>L124</b> = Daylight <b>L125</b> = Blue <b>L127</b> = Cosmetic Color Filters <b>L130</b> = Yellow

\* LE = Leading Edge (forward phase control) dimming

\* TE = Trailing Edge (forward phase control) dimming