# **HALED Lighting System** Gen2



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## Innovation you can rely on<sup>™</sup>

# HALO<sup>®</sup> LED is a Natural Choice.

The Halo LED H4 Collection offers small aperture 4-inch downlighting with the latest LED technology for accent, task and general lighting applications. The LED downlights deliver light output and distribution comparable to a halogen lamp, while offering significant energy and maintenance savings. The H4 LED series' efficient performance provides excellent cutoff, smooth beam distribution and superior color quality for better visual comfort. The LED downlights are available in multiple color temperature options and offer full dimming capability to satisfy more application needs in residential and commercial settings.





# Halo LED H4 Collection

4" LED Downlights





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

**LED Housing** 



- 4" nominal aperture housings designed for H4 LED light engines, incorporating popular Halo customer-friendly installation features
- LED driver integrated in the housing for optimized lumen delivery and superior thermal management

**LED Light Engine** B



- · Specially designed heat sink conducts heat away from the LED to maintain LED junction temperatures even when installed in insulated ceiling environments.
- Correlated Color Temperature (CCT)
- options: 2700K, 3000K, 3500K, 4000K • 90 CRI
- 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

Designed for interchangeable trim choices

### **LED Trim**



- Available in multiple reflector and baffle styles with deep regressed dome lens or regressed Solite® flat lens models
- Selection includes square trims with square baffles
- Precision trim designs and materials provide high-quality fit, form and finish
- Wide selection of 4" LED trim options allow Halo H4 LED to be used in a variety of interior spaces

#### **Replaces Halogen and CFL lamps**

Halo H4 LED downlights provide light output and distribution comparable to and exceeding that of traditional sources used in small aperture downlights, such as 50W MR16 (dichroic), 39W PAR20 Halogen, 39W R20 Halogen lamps, or 13W and 18W compact fluorescent luminaires. H4 LED provides excellent color rendering and superior optical design with smooth beam distribution.



50W MR16 (dichroic) Halogen reflector lamp



39W PAR20 Halogen

(50W replacement)

reflector lamp



39W R20 Halogen

(50W replacement)

reflector lamp



13W or 18W Compact Fluorescent Luminaire

# Halo LED H4 Collection **Light Engines**

- LED package consists of a chip on board design of multiple LEDs to create one virtual source for a productive cone of light
- Specially designed LED and heat sink integration ensures extended life of the LED package for 70% lumen maintenance (L70 at 50,000 hours projected in accordance with IES TM-21)
- Heat sink features durable die-cast and extruded aluminum construction, which conducts heat away from the LED package and keeps LED junction temperatures at specified level
- LED emits no ultraviolet wave length, minimizing fading of fabrics, paint and artwork as compared to traditional light sources
- Uses 74% less energy, significantly reducing the heat emitted as compared to traditional light sources, which translates to reduced air conditioning costs
- Designed for interchangeable trim choices; select from multiple reflector, baffle and lens trim options

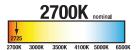


### **Light Engine Performance**

- 450-900 lumens depending upon color temperature and trim selected\*
- Correlated Color Temperature (CCT) options: 2700K, 3000K, 3500K, 4000K
- Less than 13 watts (driver is integral to housing)
- Over 90 CRI
- Lumen maintenance L70 at 50,000 hours projected per IES TM-21
- Up to 70 lumens per watt

\* Trim type and color temperature determines the delivered lumen value. Refer to specification sheets and photometric files at www.cooperlighting.com.

EL406930



Model Number

EL406927



Model Number

3500K 2700K 3000K 4100K 5000K

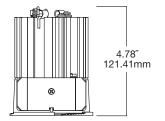
Model Number

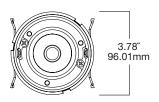
EL406935

4000 2700K 3000K 3500K 4100K 5000K

Model Number

EL406940







Qualified and compliant. Refer to ENERGY STAR® Qualified Products List and CEC (T24) Appliance Database for listings, (as used with designated Halo H4 LED trims).



# Halo LED H4 Collection Trims

### 4" LED Square Downlight Baffle Trims



TLS408WHWB - Square baffle trim with Solite® regressed lens, white baffle, and white trim ring

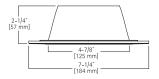


TLS408SNBB - Square baffle trim with Solite® regressed lens, black baffle, and satin nickel trim ring





TL409WW - Semi-specular reflector with wall wash optic, diffusing lens, and white trim ring





TLS408WHBB - Square baffle trim

TLS408TBZBB - Square baffle trim

with Solite® regressed lens, black

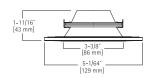
baffle, and tuscan bronze trim ring

with Solite® regressed lens, black

baffle, and white trim ring

TL409WHWW - White reflector with wall wash optic, diffusing lens, and white trim ring

- Compatible with EL4 series (round) downlight light engines
- Consistent O.D. with Halo 4" family
- Square step baffle for controlled aperture brightness
- Regressed Solite<sup>®</sup> flat glass lens
- Wet Location, shower rated
- · Precision-formed aluminum baffles and die-cast trim rings offer high-quality fit and finish
- Trim gasket provides AIR-TITE<sup>™</sup> seal, and compliance where local codes require a gasket on wet location, shower-rated trims

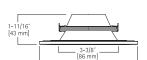


- Wall wash optics with downlight performance
- Two downlight reflector cone finish options: semi-specular clear and white
- Precision-formed aluminum reflectors and die-cast trim rings offer high-quality fit and finish
- High-reflectance vaccum-metalized specular wall wash kick reflector for high-angle vertical illumination
- Polymer diffusing dome lens for smooth distribution
- Compatible with EL4 Series downlight light engines
- Wet location, shower rated

### 4" LED Polymer "Dead Front" Shower Trim



TL422PS - White polymer baffle and ring with prismatic clear polymer lens



5-1/64 [129 mm]

- White polymer baffle and ring
- Prismatic, clear flat polymer lens
- Non-electrically conductive "dead front"
- Non-corrosive front
- Wet Location, shower rated

### 4" LED Designer Trim Rings



- For use with TL4x round downlight trims only
- Optional accessory
- Die-cast trim ring
- Thin profile provides subtle ceiling appearance (0.120" at OD and 0.180" at ID)

TRM400PC Polished chrome TRM400BK Black TRM400WH White Satin nickel TRM400SN TRM400TBZ Tuscan bronze





### 4" LED Deep Regressed Dome Lens Reflector and Baffle Trims

- Dome lensed trims offer a polymer lens for a diffuse beam with even distribution
- Wet location, shower rated



TL410WH - White reflector with white trim ring



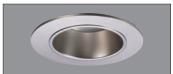
TL410H - Haze reflector with white trim ring



TL411WB - White baffle with white trim rina



TL410SBK - Specular black reflector with white trim rina



TL410SN - Satin nickel reflector and trim ring



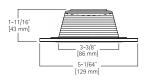
TL411BB - Black baffle with white trim rina

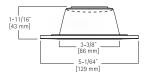


TL410SC - Specular clear reflector with white trim ring



TL410TBZ - Tuscan bronze reflector and trim ring







### 4" LED Solite® Regressed Flat Lens Reflector and Baffle Trims

- Solite® lensed trims offer high-clarity glass lenses for high-lumen transmission along with a subtle diffusion of source brightness
- Wet location, shower rated



TL402WHS - White reflector with Solite<sup>®</sup> lens, and white trim ring



TL402HS - Haze reflector with Solite® lens, and white trim ring



TL403WBS - White baffle with Solite® lens, and white trim ring

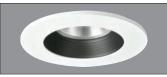
4" Reflector and Baffle Trims Summary



TL402SBKS - Specular black reflector with Solite® lens, and white trim ring



TL402SNS - Satin nickel reflector with Solite® lens, and satin nickel trim ring



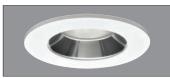
TL403BBS - Black baffle with Solite® lens, and white trim ring

· Precision-formed aluminum reflectors and baffles and die-cast trim rings offer high-quality fit and finish

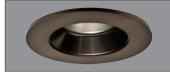
Accessory die-cast trim rings in designer finishes; mix and match with baffles and reflectors.

• Trim gasket provides AIR-TITE™ seal and compliance where local codes require a gasket on wet location, shower-rated trims

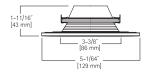
• Trim designs and dimensions are consistent with Halo 4" series for a true 4" family

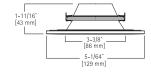


TL402SCS - Specular clear reflector with Solite® lens, and white trim ring



TL402TBZS - Tuscan bronze reflector with Solite® lens, and tuscan bronze trim ring







• Standard trim ring provides clearance for remodeler flange and gasket



A LED Housing



- 4" nominal aperture housings designed for H4 LED light engines, incorporating popular Halo customer-friendly installation features
- LED driver integrated in the housing for optimized lumen delivery and superior thermal management of the LED package

### **B** LED Adjustable Gimbal and Light Engine



• 4" round and square adjustable gimbal-style trims

- 4" LED gimbal trim is integrated with the LED light engine
- 35° tilt adjustment
- Correlated Color Temperature (CCT) options: 2700K, 3000K, 3500K, 4000K
- 90 CRI
- 25° beam reflector included with interchangeable 35° and 50° reflectors available
- Gimbal trim finish options: white, satin nickel and tuscan bronze
- Specially designed heat sink conducts heat away from the LED to maintain LED junction temperatures, even when installed in insulated ceiling housings.
- 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





# Adjustable Gimbal and Light Engine

- 4" round and square gimbal style trims combined with LED light engine
- 35° tilt
- Optics are MR16-like with interchangeable reflectors with 25°, 35°, 50° beam
- 25° beam reflector included in all adjustable gimbal trims
- Optional reflector kit with 25°, 35°, 50° reflectors
- Correlated Color Temperatures (CCT) available: 2700K, 3000K, 3500K, 4000K
- · Gimbal trim finishes include white, satin nickel and tuscan bronze
- Front-loading, snap-in media and reflector cover
- Front cover holds one lens media

#### **Optional Gimbal Reflector Kit - TL412RK**

- 25° reflector
- 35° flood reflector
- 50° wide flood reflector







25°	Reflector	(Incluc

35° Flood Reflector

50° Wide Flood Reflector

		2700K 3000K 3500K 4100K 6500K	30000K nominal	35000K nominal 3465 2700K 3000K 3500K 4100K 5000K 6500K	40000K nominal 3985 2700K 3000K 3500K 4100K 5000K 6500K
Style	Trim Finish	Model Number	Model Number	Model Number	Model Number
Round	White	ELG406927WH	ELG406930WH	ELG406935WH	ELG406940WH
	Satin nickel	ELG406927SN	ELG406930SN	ELG406935SN	ELG406940SN
	Tuscan bronze	ELG406927TBZ	ELG406930TBZ	ELG406935TBZ	ELG406940TBZ
Square	White	ELSG406927WH	ELSG406930WH	ELSG406935WH	ELSG406940WH
	Satin nickel	ELSG406927SN	ELSG406930SN	ELSG406935SN	ELSG406940SN
	Tuscan bronze	ELSG406927TBZ	ELSG406930TBZ	ELSG406935TBZ	ELSG406940TBZ

#### Optional Lens Media (Order separately)

One lens media may be used in place of clear lens. For round and square gimbals.

#### **Optical Lenses**

- L110 Diffuse sand blasted lens
- L111 Soft focus textured lens
- L113 Prismatic lens
- L115 Linear spread lens

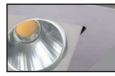
#### **Dichroic Color Films**

- L114 UV filter
- L120 Red
- L121 Amber
- L122 Yellow
- L123 Green
- L124 Daylight
- L125 Blue
- L127 Cosmetic color filters
- L130 Yellow

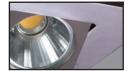
TL412RK is for use with ELGxx and ELSGxx







Satin Nickel



Tuscan Bronze



**Optional Accessory Reflector Kit** 

(Order separately)

TL412RK includes:

• 35° reflector

• 50° reflector

gimbals only.

• 25° reflector (included)

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



# Halo LED H4 Collection Housings

- Available for insulated ceilings\* (ICAT) and non-insulated ceilings (TAT, TCP)
- ICAT and TAT designated housings are AIR-TITE™ in compliance with restricted airflow requirements per ASTM-E283 standard
- Include standard Halo features:
  - Got Nail!™ Bar hangers with pre-installed nail and integral T-grid clip
- Slide-N-Side™ wire traps and quick-connects for tool-less wiring outside the junction box
- Pass-N-Thru™ bar hanger feature for tool-less shortening of bars without removal from frame
- LED driver integral in the housing for optimized lumen delivery and superior thermal management
- LED driver designed for high efficiency and long life operating the LED package for over 50,000 hours
- Dimmable

- ICAT housings are dimmable to 10% in normal operation with most 120V leading edge (LE) and trailing edge (TE) phase control dimmers. May also dim to 5% using dimmers with low-end trim adjustment. (Consult dimmer manufacturer.)

- Non-IC housings have two dimming options: phase control and 0-10V control. Phase control is dimmable to 10% in normal operation with most 120V leading edge (LE) and trailing edge (TE) phase control dimmers. 0-10V is dimmable to 10% in typical operation with compatible 0-10V DC low voltage dimmers with two low voltage dimming wires. (Consult dimmer manufacturer.)

- Can be operated from a standard wall switch if dimming is not required
- Labels
- cULus 1598 Listed Luminaire
- cULus Listed for Damp Location, and wet location with designated trims
- ENERGY STAR® Qualified with designated Halo H4 LED light engines and H4 LED trims\*\*
- May be used to meet State of California Title 24 and International Energy Conservation Code IECC High Efficacy requirements with designated Halo H4 LED light engines and H4 LED trims\*\*

### **Energy Data / ICAT Housings**

- Minimum operating temperature: -30°C / -22°F
- EMI/RFI Emissions FCC 47CFR Part 18, Consumer Limits
- Sound rating: Class A standards
- Input voltage: 120V
- Power factor: >0.90



- Input frequency: 50/60Hz
- THD: <20%
- Input power: 13.0 W
- Input current: 121mA (120mA Remodel)
- Dimmable: Leading edge (LE) and trailing edge (TE) phase control dimmers

#### H457ICAT1E

#### ICAT Rated / New Construction

- For direct contact with insulation in insulated ceilings.\* (May also be used in non-insulated ceilings.)
- AIR-TITE™ meets restricted airflow requirements per ASTM E-283
- Driver: 13W, 120V, 50/60Hz
- EMI/RFI: Rated for FCC Consumer Limits, suitable for residential and commercial applications
- Dimmable with most leading edge (LE) and trailing edge (TE) phase control dimmers to 10% (5% on select dimmers with low-end trim adjustment)
- Dimensions: 6"L x 8-1/2"W x 5-3/8"H (with 1/2" plaster lip) Ceiling cutout: 4-1/2"



#### H457RICAT1E ICAT Rated / Remodel

- Designed for installation from below the finished ceiling
- For direct contact with insulation in insulated ceilings. (May also be used in non-insulated ceilings.)
- AIR-TITE™ meets restricted airflow requirements per ASTM E-283
- Driver: 13W, 120V, 50/60Hz
- EMI/RFI: Rated for FCC Consumer Limits, suitable for residential and commercial applications
- Dimmable with most leading edge (LE) and trailing edge (TE) phase control dimmers to 10% (5% on select dimmers with low-end trim adjustment)
- Dimensions: 14-3/4"L x 5"W x 5-1/2"H Ceiling cutout: 4-1/4"

\*ICAT housings are not for direct contact with spray foam insulation. Refer to NEMA LSD 57-2013. \*\*Refer to ENERGY STAR<sup>®</sup> Qualified Products List and CEC (T24) Appliance Database for listings.

### **Energy Data / Non-IC Housings**

- Minimum operating temperature: -30°C / -22°F
- EMI/RFI Emissions FCC47CFR Part 18, **Consumer Limits**
- Sound rating: Class A standards
- Input voltage: universal 120V 277V

H457TATE010

- Power factor: >0.90
- Input frequency: 50/60Hz
- THD: <20%
- Input power: 13.0 W

• Input current: 121mA

- Dimmable:
- 120V leading edge (LE) and trailing edge (TE) dimmers
- 0-10V controls



- Non-IC Rated / New Construction
- For non-insulated ceilings
  - Insulation must be kept 3" from all sides and top of housing
  - AIR-TITE<sup>™</sup> meets restricted airflow requirements per ASTM E-283
  - Driver: 13W, 120V-277V, 50/60Hz commercial / residential
  - EMI/RFI: Rated for the more stringent FCC Consumer Limits
  - Dimmable with most 120V leading edge (LE) and trailing edge (TE) dimmers to 10% (5% on dimmers with low-end trim adjustment)
  - Dimmable to 10% with 0-10V DC dimming controls (two low voltage control wires required)
  - Dimensions: 5-1/2"L x 8"W x 5-1/2"H (with 1/2" plaster lip) Ceiling cutout: 4-1/2"



#### H457TCPE010

#### Non-IC Rated / Chicago Plenum New Construction

- Non-IC rated, Chicago Plenum New Construction
- Insulation must be kept 3" from all sides and top of housing
- AIR-TITE™ meets restricted airflow requirements per ASTM E-283
- Driver: 13W, 120V-277V, 50/60Hz Commercial / Residential
- EMI/RFI: Rated for the more stringent FCC Consumer Limits
- Dimmable with most 120V leading edge (LE) and trailing edge (TE) dimmers to 10% (5% on dimmers with low-end trim adjustment)
- Dimmable to 10% with 0-10V DC dimming controls (two low voltage control wires required)
- Dimensions: 5-1/2"L x 8"W x 7-1/8"H (with 1/2" plaster lip) Ceiling cutout: 4-1/2"



#### H457RTATE010

#### Non-IC Rated / Remodel

- · Designed for installation from below the finished ceiling
- · For non-insulated ceilings
- Insulation must be kept 3" from all sides and top of housing
- AIR-TITE™ meets restricted airflow requirements per ASTM E-283
- Driver: 13W, 120V-277V, 50/60Hz commercial / residential
- EMI/RFI: Rated for the more stringent FCC Consumer Limits
- Dimmable with most 120V leading edge (LE) and trailing edge (TE) dimmers to 10% (5% on dimmers with low-end trim adjustment)
- Dimmable to 10% with 0-10V DC dimming controls (two low voltage control wires required)
- Dimensions: 14-3/4"L x 5"W x 5-1/2"H Ceiling cutout: 4-1/4"

# Halo LED H4 Downlight Collection Photometry

### Halo H4 LED Downlight Photometry - 2nd Generation

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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)
Specular Reflector, Diffuse Polymer Lens	TL410SC	660	Yes	Yes	Yes	720	Yes	Yes	Yes	730	Yes	Yes	Yes	810	Yes	Yes	Yes
Haze Reflector, Dif- fuse Polymer Lens	TL410H	650	Yes	Yes	Yes	710	Yes	Yes	Yes	720	Yes	Yes	Yes	800	Yes	Yes	Yes
White Reflector, Dif- fuse Polymer Lens	TL410WH	630	Yes	Yes	Yes	690	Yes	Yes	Yes	700	Yes	Yes	Yes	770	Yes	Yes	Yes
Specular Black Reflector, Diffuse Polymer Lens	TL410SBK	460	No	No	No	500	No	No	No	510	No	No	No	560	Yes	No	Yes
Satin Nickel Reflec- tor, Diffuse Polymer Lens	TL410SN	560	Yes	No	Yes	610	Yes	Yes	Yes	620	Yes	Yes	Yes	680	Yes	Yes	Yes
Tuscan Bronze Reflector, Diffuse Polymer Lens	TL410TBZ	450	No	No	No	500	No	No	No	510	No	No	No	560	Yes	No	Yes
White Baffle, Dif- fuse Polymer Lens	TL411WB	647	Yes	Yes	Yes	690	Yes	Yes	Yes	700	Yes	Yes	Yes	770	Yes	Yes	Yes
Black Baffle, Dif- fuse Polymer Lens	TL411BB	450	No	No	No	490	No	No	No	500	No	No	No	550	No	No	Yes
Solite® Glass Lens Specular Clear Reflector	TL402SCS	710	Yes	Yes	Yes	770	Yes	Yes	Yes	780	Yes	Yes	Yes	860	Yes	Yes	Yes
Solite® Glass Lens Haze Reflector	TL402HS	740	Yes	Yes	Yes	810	Yes	Yes	Yes	820	Yes	Yes	Yes	900	Yes	Yes	Yes
Solite® Glass Lens White Reflector	TL402WHS	710	Yes	Yes	Yes	780	Yes	Yes	Yes	790	Yes	Yes	Yes	870	Yes	Yes	Yes
Solite <sup>®</sup> Glass Lens White Baffle	TL403WBS	700	Yes	Yes	Yes	760	Yes	Yes	Yes	780	Yes	Yes	Yes	850	Yes	Yes	Yes
Solite® Glass Lens Specular Black Reflector	TL402SBKS	650	Yes	Yes	Yes	710	Yes	Yes	Yes	720	Yes	Yes	Yes	800	Yes	Yes	Yes
Solite® Glass Lens Satin Nickel Reflector	TL402SNS	660	Yes	Yes	Yes	720	Yes	Yes	Yes	730	Yes	Yes	Yes	800	Yes	Yes	Yes
Solite® Glass Lens Tuscan Bronze Reflector	TL402TBZS	630	Yes	Yes	Yes	690	Yes	Yes	Yes	700	Yes	Yes	Yes	770	Yes	Yes	Yes
Solite® Glass Lens Black Baffle	TL403BBS	630	Yes	Yes	Yes	690	Yes	Yes	Yes	700	Yes	Yes	Yes	770	Yes	Yes	Yes
Square Baffle Trim, Solite <sup>®</sup> Glass Lens, White Ring & White Baffle	TLS408WHWB	680	Yes	Yes	Yes	740	Yes	Yes	Yes	750	Yes	Yes	Yes	830	Yes	Yes	Yes
Square Baffle Trim, Solite® Glass Lens, White Ring & Black Baffle	TLS408WHBB	640	Yes	Yes	Yes	710	Yes	Yes	Yes	720	Yes	Yes	Yes	790	Yes	Yes	Yes
Square Baffle Trim, Solite® Glass Lens, Satin Nickel Ring & Black Baffle	TLS408SNBB	660	Yes	Yes	Yes	720	Yes	Yes	Yes	730	Yes	Yes	Yes	800	Yes	Yes	Yes
Square Baffle Trim, Solite® Glass Lens, Tuscan Bronze Ring & Black Baffle	TLS408TBZBB	630	Yes	Yes	Yes	690	Yes	Yes	Yes	700	Yes	Yes	Yes	770	Yes	Yes	Yes
Wall Wash, Semi- Specular Reflector with Diffuse Polymer Lens & White Ring	TL409WW	640	Yes	Yes	Yes	700	Yes	Yes	Yes	710	Yes	Yes	Yes	780	Yes	Yes	Yes
Wall Wash, White Reflector, with Dif- fuse Polymer Lens & White Ring	TL409WHWW	640	Yes	Yes	Yes	710	Yes	Yes	Yes	720	Yes	Yes	Yes	790	Yes	Yes	Yes
White Baffle Shower Trim, All Polymer: Lens, Baffle & Ring	TL422PS	680	Yes	Yes	Yes	750	Yes	Yes	Yes	760	Yes	Yes	Yes	840	Yes	Yes	Yes

(1) Trims are tested with designated LED light engines, in accordance with IES LM-79 Photometric Measurement Standards. 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

## Halo LED H4 Collection **Photometry**

### Halo H4 LED Downlight Photometry - 2nd Generation

Representative photometric test report for 3000°K color temperature, 90CRI. Multipliers may be used to determine relative lumen values with other color temperatures

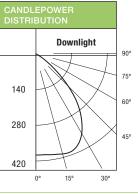
Correlated Color Temperature (CCT) as tested: 3000°K						
Color Temperature	2700°K	3000°K	3500°K	4000°K		
Multiplier	0.913	1.000	1.014	1.118		

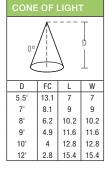
Angle

Angle 

Angle 

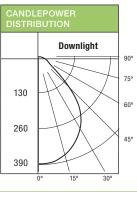
EL406930	-TL410SC	
Test Number	P123670	
LED Module	EL406930	
Trim	4" Specular Clear Reflector, Polycarbonate Frost Dome Lens, White Ring	
Lumens	55.4 Lm/W	
SC	1.29 / 1.29 / 1.25	

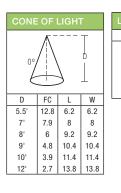




E DATA 0°		ZONAL LUMEN SUMMARY						
41329	Zone	Lumens	%Fixture					
14297	0-30	333	46.2					
1601	0-40	527	73.2					
685	0-60	714	99.2					
0	0-90	720	100.0					
	90-180	0	0.0					
	0-180	720	100.0					

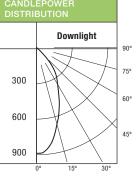
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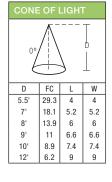




NCE DATA 0°	ZONA SUMI	L LUM	EN
48625	Zone	Lumens	%Fixture
21600	0-30	290	42.0
18264	0-40	455	66.0
16267	0-60	630	91.3
10819	0-90	690	100.0
	90-180	0	0.0
	0-180	690	100.0

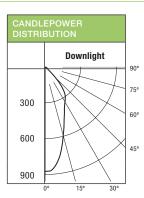
EL406930	-TL402SCS	
Test Number	P123702	
LED Module	EL406930	
Trim	4" Specular Clear Reflector w/ Solite® Glass Lens , White Ring	
Lumens	59.2 Lm/W	
SC	0.75 / 0.75 / 0.84	-





N	ICE DATA 0°	ZONA SUMM	L LUM	EN
	25791	Zone	Lumens	%Fixture
	4747	0-30	472	61.3
	3240	0-40	652	84.7
	0	0-60	760	98.7
L	0	0-90	770	100.0
		90-180	0	0.0
		0-180	770	100.0

EL406930	-TL403WBS	
Test Number	P123714	
LED Module	EL406930	
Trim	4" White Baffle w/ Solite® Glass Lens, White Ring	
Lumens	58.5 Lm/W	
sc	0.66 / 0.66 / 0.82	



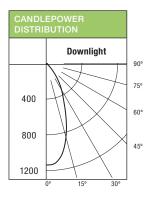
CON	E OF I	LIGH <sup>-</sup>	Γ					
D	FC	L	W	1				
5.5'	28.9	3.6	3.6	1				
7'	17.8	4.6	4.6					
8'	13.6	5.2	5.2					
9'	10.8	5.8	5.8					
10'	8.7	6.6	6.6					
12'	6.1	7.8	7.8					

UMINA	NCE DATA		L LUM	EN
Angle	0°	SUM	MARY	
45	28616	Zone	Lumens	%Fixture
55	8005	0-30	424	55.8
65	6824	0-40	606	79.7
75	3921	0-60	733	96.4
85	2033	0-90	760	100.0
		90-180	0	0.0
		0-180	760	100.0

# Halo LED H4 Collection Photometry

### Halo H4 LED Downlight Photometry - 2nd Generation

Test Number	P123750	
LED Module	EL406930	
Trim	4" Square Baffle Trim, Solite Lens, White Ring with White Baffle	
Lumens	56.9 Lm/W	
SC	0.71 / 0.69 / 0.73	

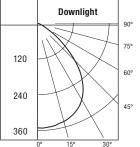


CONE	OFI	LIGH	Г				
°							
D	FC	L	W				
5.5'	37.6	3.8	3.8				
7'	23.2	4.8	4.8				
8'	17.8	5.6	5.4				
9'	14	6.2	6.2				
10'	11.4	7	6.8				
12'	7.9	8.4	8.2				

LUMINA	
Angle	0°
45	16824
55	9999
65	11645
75	6288
85	4891

	ZONAL LUMEN SUMMARY						
Zone	Lumens	%Fixture					
0-30	554	74.9					
0-40	676	91.3					
0-60	726	98.1					
0-90	740	100.0					
90-180	0	0.0					
0-180	740	100.0					

EL406930	)-TL409WW	SINGLE UNIT FOOTCANDLES					MU	ILTIPLE		FOOT	CAND	LES				
Test Number Light Module	P123730 EL406930		2.5' FR( (Distance			ong Wall)						<b>ROM W/</b> g Betwee		es)		
Trim	4" Wall Wash, Semi-Specular	DD		1'	2'	3'	4'	5'	6'	DD		3'			4'	
	Clear Reflector, White Ring	1'	8.1	5.6	2.2	0.7	0.2	0.1	0	1'	8.9	7.5	8.9	8.4	4.4	8.4
Lumens	53.8 Lm/W	2'	14.9	12.3	6.9	3.1	1.3	0.5	0.2	2'	18	19.5	18	16.1	13.9	16.1
SC	1.19 / 1.24 / 1.22	3'	9.7	8.5	5.9	3.8	2	0.9	0.4	3'	13.5	14.5	13.5	11.7	11.9	11.7
		 4'	6.2	5.7	4.4	3	1.9	1.2	0.6	4'	9.2	10.1	9.2	8.1	8.8	8.1
		5'	4	3.8	3.1	2.4	1.6	1.1	0.7	5'	6.4	7	6.4	5.7	6.2	5.7
CANDLEP	OWER	6'	2.7	2.6	2.2	1.8	1.4	1	0.7	6'	4.5	4.8	4.5	4	4.4	4
DISTRIBU	TION	7'	1.9	1.8	1.6	1.4	1.1	0.8	0.6	7'	3.2	3.4	3.2	2.9	3.2	2.9
		8'	1.3	1.3	1.2	1	0.9	0.7	0.5	8'	2.4	2.5	2.4	2.2	2.4	2.2
	Downlight	9'	1	0.9	0.9	0.8	0.7	0.6	0.5	9'	1.8	1.8	1.8	1.7	1.8	1.7
	Downingin	 10'	0.7	0.7	0.7	0.6	0.6	0.5	0.4	10'	1.4	1.4	1.4	1.3	1.4	1.3



UMINAN	IINANCE DATA		ZONAL L	UMEN SU	MMARY
Angle	0°		Zone	Lumens	%Fixture
45	48255		0-30	271	38.7
55	51372		0-40	428	61.1
65	33851		0-60	645	92.2
75	13321		0-90	700	100.0
85	3882		90-180	0	0.0
			0-180	700	100.0

# Halo LED H4 Directional Gimbal Collection Photometry

### Halo H4 LED Directional Gimbal Photometry - 2nd Generation

H4 LED Adjusta & Square Gimba		ELG		) Gimbal & ELSG40	6927	ELG		) Gimbal & ELSG40		ELG	H4 LED 406935 8	Gimbal ELSG40	6935	ELG4		Gimbal ELSG40	6940
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" Adjustable Gimbal Trim / Light Engine, White	ELG4069xxWH	750	Yes	Yes	Yes	840	Yes	Yes	Yes	880	Yes	Yes	Yes	930	Yes	Yes	Yes
4" Adjustable Gimbal Trim / Light Engine, Satin Nickel & Tuscan Bronze	ELG4069xxSN/ 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  $^{\scriptscriptstyle \odot}$  standards, consult the ENERGY STAR  $^{\scriptscriptstyle \odot}$  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

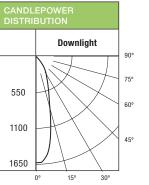
Gimbal Finish Codes WH = White SN = Satin Nickel

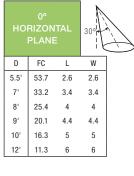
TBZ = Tuscan Bronze

### Halo H4 LED Directional Gimbal Photometry - 2nd Generation (2700K)

ELG4069:	27WH (White) - (25° BEAM ·	- 0° TILT)
Test Number	P123766	
LED Module	ELG406927	
Trim	4" Round gimbal / LED light engine	
Lumens	57.7 Lm/W	
ССТ	2700K	
SC	0.5 / 0.5 / 0.56	

LUMINANC	E DATA		ZONAL L	UMEN SU	MMARY
Angle	0°	]	Zone	Lumens	%Fixture
45	21865	]	0-30	561	74.8
55	7229		0-40	696	92.9
65	1742		0-60	746	99.5
75	1497		0-90	750	100.0
85	4446		90-180	0	0.0
		-	0-180	750	100.0

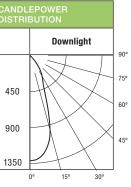




v	30° ERTIC PLANI		300	
D	FC	L	W	CB
2'	83.7	2.7	1.4	3.5
3'	37.2	4.1	2.2	5.2
4'	20.9	5.6	3	6.9
5'	13.4	7	3.8	8.7
6'	9.3	8.4	4.6	10.4
8'	5.2	11.2	6.2	13.9
10'	3.3	14	7.6	17.3
12'	2.3	16.9	9.2	20.8

ELG4069	ELG406927WH (White) - (35° BEAM - 0° TILT)							
Test Number	P123790							
LED Module	ELG406927							
Trim	4" Round gimbal / LED light engine							
Lumens	56.2 Lm/W							
ССТ	2700K							
sc	0.64 / 0.64 / 0.62							

LUMINANCE DATA		ZONAL LUMEN SUMMA		
Angle	0°	Zone	Lumens	%Fixture
45	19728	0-30	559	76.6
55	3310	0-40	690	94.5
65	1742	0-60	728	99.7
75	0	0-90	730	100.0
85	4446	90-180	0	0.0
		0-180	730	100.0



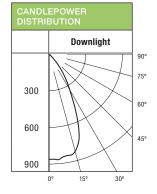
		30°	<u>`</u>
FC	L	W	
43.5	3.4	3.4	
26.9	4.4	4.4	
20.6	5	5	
16.3	5.6	5.6	
13.2	6.2	6.2	
9.1	7.6	7.6	
	13.5 26.9 20.6 16.3 13.2	13.5 3.4   26.9 4.4   20.6 5   16.3 5.6   13.2 6.2	13.5   3.4   3.4     26.9   4.4   4.4     20.6   5   5     16.3   5.6   5.6     13.2   6.2   6.2

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	30° ERTIC PLANI		300	
D	FC	L	W	CB
2'	85.1	2.4	1.6	3.5
3'	37.8	3.6	2.6	5.2
4'	21.3	4.8	3.4	6.9
5'	13.6	6	4.2	8.7
6'	9.5	7.2	5.2	10.4
8'	5.3	9.6	7	13.9
10'	3.4	12	8.6	17.3
12'	2.4	14.4	10.4	20.8

ELG406927WH (White) - (50° BEAM - 0° TILT)					
Test Number	P123814				
LED Module	ELG406927				
Trim	4" Round gimbal / LED light engine				
Lumens	55.4 Lm/W				
ССТ	2700K				
SC	0.88 / 0.89 / 0.82				

LUMINANCE DATA			ZONAL L	UMEN SU	MMARY
	Angle	0°	Zone	Lumens	%Fixture
	45	22398	0-30	545	75.7
	55	2495	0-40	682	94.8
	65	2218	0-60	718	99.7
	75	0	0-90 720	720	100.0
	85	0	90-180	0	0.0
			0-180	720	100.0

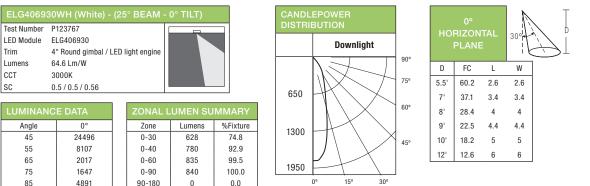


0° HORIZONTAL PLANE			300	
D	FC	L	W	
5.5'	28.5	4.8	4.8	
7'	17.6	6	6.2	
8'	13.5	7	7	
9'	10.6	7.8	7.8	
10'	8.6	8.8	8.8	
12'	6	10.6	10.6	

v	35° ERTIC PLANI		300	
D	FC	L	W	CB
2'	81.1	1.8	2	3.5
3'	36.1	2.8	3	5.2
4'	20.3	3.8	4	6.9
5'	13	4.7	5	8.7
6'	9	5.7	6	10.4
8'	5.1	7.6	8	13.9
10'	3.2	9.6	10	17.3
12'	2.3	11.5	12	20.8

			EPOWER BUTION	
			Downlight	904
				90 <sup>-</sup> 75°
su	MMARY	450	$\mathbb{T}$	60°
s	%Fixture			
	76.6	900	$ \land \land \times $	45°
	94.5			45°

### Halo H4 LED Directional Gimbal Photometry - 2nd Generation (3000K)



		30° ERTIC PLANI		30.	
	D	FC	L	W	CB
ſ	2'	93.8	2.7	1.4	3.5
	3'	41.7	4.1	2.2	5.2
	4'	23.4	5.6	3	6.9
	5'	15	7	3.8	8.7
	6'	10.4	8.4	4.6	10.4
	8'	5.9	11.2	6.2	13.9
	10'	3.8	14	7.6	17.3
	12'	2.6	16.9	9.2	20.8



0-180

Zone

0-30

0-40

0-60

0-90

90-180

0-180

840

Lumens

628

775

817

820

0

820

100.0

%Fixture

76.6

94.5

997

100.0

0.0

100.0

%Fixture

75.7

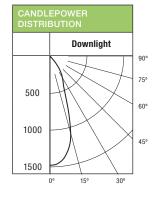
94.7

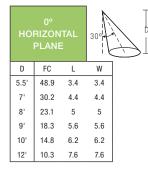
99.7

100.0

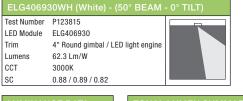
0.0 100.0

LUMINANCE DATA			
Angle	0°		Γ
45	22139		Γ
55	3716		
65	2017		
75	0		
85	4891		

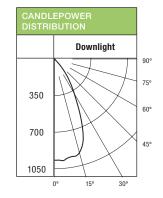


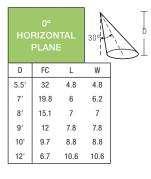


	30° ERTIC PLANI		30°	
D	FC	L	W	CB
2'	95.5	2.4	1.6	3.5
3'	42.5	3.6	2.6	5.2
4'	23.9	4.8	3.4	6.9
5'	15.3	6	4.2	8.7
6'	10.6	7.2	5.2	10.4
8'	6	9.6	7	13.9
10'	3.8	12	8.6	17.3
12'	2.7	14.4	10.4	20.8



LUMINANCE DATA			ZONAL L	UMEN SU
Angle	0°		Zone	Lumens
45	25189		0-30	613
55	2839		0-40	768
65	2568		0-60	808
75	0		0-90	810
85	0		90-180	0
			0-180	810



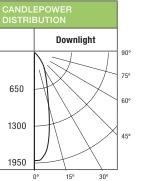


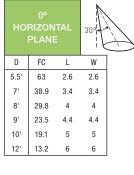
v	35° ERTIC PLANI		30%	
D	FC	L	W	CB
2'	91.3	1.8	2	3.5
3'	40.6	2.8	3	5.2
4'	22.8	3.8	4	6.9
5'	14.6	4.7	5	8.7
6'	10.1	5.7	6	10.4
8'	5.7	7.6	8	13.9
10'	3.7	9.6	10	17.3
12'	2.5	11.5	12	20.8

### Halo H4 LED Directional Gimbal Photometry - 2nd Generation (3500K)

ELG4069	35WH (White) - (25° BEAM ·	- 0° TILT)
Test Number	P123768	
LED Module	ELG406935	
Trim	4" Round gimbal / LED light engine	
Lumens	67.7 Lm/W	
CCT	3500K	
SC	0.5 / 0.5 / 0.56	
-		

LUMINANC	E DATA		ZONAL LUMEN SUMMARY		
Angle	0°	]	Zone	Lumens	%Fixture
45	25702		0-30	658	74.8
55	8512		0-40	817	92.9
65	2109		0-60	875	99.5
75	1647		0-90	880	100.0
85	4891		90-180	0	0.0
			0-180	880	100.0

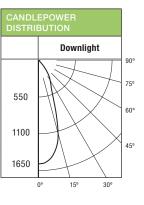




v	30° ERTIC PLANI		300	
D	FC	L	W	CB
2'	98.2	2.7	1.4	3.5
3'	43.7	4.1	2.2	5.2
4'	24.6	5.6	3	6.9
5'	15.7	7	3.8	8.7
6'	10.9	8.4	4.6	10.4
8'	6.1	11.2	6.2	13.9
10'	3.9	14	7.6	17.3
12'	2.7	16.9	9.2	20.8

ELG406935WH (White) - (35° BEAM - 0° TILT)					
Test Number	P123792				
LED Module	ELG406935				
Trim	4" Round gimbal / LED light engine				
Lumens	66.2 Lm/W				
CCT	3500K				
SC	0.64 / 0.64 / 0.62				

LUMINANC	E DATA	ZONAL LUMEN SUMMARY		
Angle	0°	Zone	Lumens	%Fixture
45	23235	0-30	659	76.6
55	3851	0-40	813	94.5
65	2109	0-60	857	99.7
75	0	0-90	860	100.0
85	4891	90-180	0	0.0
		0-180	860	100.0



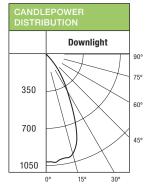
	0° RIZONTAL PLANE		30°	
D	FC	L	W	
5.5'	51.3	3.4	3.4	
7'	31.7	4.4	4.4	
8'	24.2	5	5	
9'	19.1	5.6	5.6	
10'	15.5	6.2	6.2	
12'	10.8	7.6	7.6	

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v	30° ERTIC PLANI		30%	
D	FC	L	W	CB
2'	100.2	2.4	1.6	3.5
3'	44.5	3.6	2.6	5.2
4'	25	4.8	3.4	6.9
5'	16	6	4.2	8.7
6'	11.1	7.2	5.2	10.4
8'	6.3	9.6	7	13.9
10'	4	12	8.6	17.3
12'	2.8	14.4	10.4	20.8

ELG406935WH (White) - (50° BEAM - 0° TILT)					
P123816					
ELG406935					
4" Round gimbal / LED light engine					
65.4 Lm/W					
3500K					
0.88 / 0.89 / 0.82					
	P123816 ELG406935 4" Round gimbal / LED light engine 65.4 Lm/W 3500K				

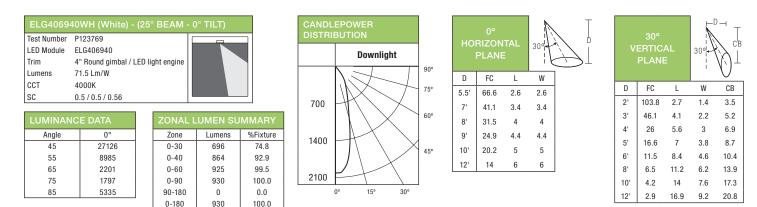
LUMINANC	E DATA	ZONAL LUMEN SUMMAR		
Angle	0°	Zone	Lumens	%Fixture
45	26375	0-30	644	75.7
55	2925	0-40	805	94.8
65	2685	0-60	848	99.7
75	0	0-90	850	100.0
85	0	90-180	0	0.0
		0-180	850	100.0

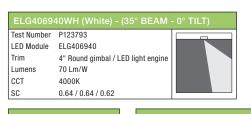


	0° RIZON PLANI		30°
D	FC	L	W
5.5'	33.6	4.8	4.8
7'	20.8	6	6.2
8'	15.9	7	7
9'	12.6	7.8	7.8
10'	10.2	8.8	8.8
12'	7.1	10.6	10.6

	35° ERTIC PLANI	300-		
D	FC	L	W	CB
2'	95.8	1.8	2	3.5
3'	42.6	2.8	3	5.2
4'	23.9	3.8	4	6.9
5'	15.3	4.7	5	8.7
6'	10.6	5.7	6	10.4
8'	6	7.6	8	13.9
10'	3.8	9.6	10	17.3
12'	2.7	11.5	12	20.8

### Halo H4 LED Directional Gimbal Photometry - 2nd Generation (4000K)





Lumens

697

860

907

910

0

910

900

76.6

94.5

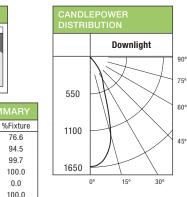
99.7

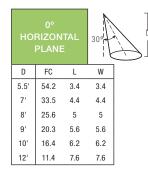
100.0

0.0

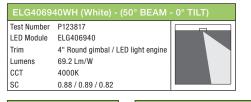
100.0

LUMINANC	E DATA	ZONAL
Angle	0°	Zone
45	24606	0-30
55	4121	0-40
65	2201	0-60
75	0	0-90
85	5335	90-180
		0-180

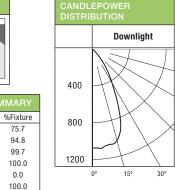




	30° ERTIC PLANI		30°	
D	FC	L	W	CB
2'	106	2.4	1.6	3.5
3'	47.1	3.6	2.6	5.2
4'	26.5	4.8	3.4	6.9
5'	17	6	4.2	8.7
6'	11.8	7.2	5.2	10.4
8'	6.6	9.6	7	13.9
10'	4.2	12	8.6	17.3
12'	2.9	14.4	10.4	20.8



INANCE DATA		ZONAL LUMEN	
Ingle	0°	Zone	Lumens
45	27980	0-30	682
55	3097	0-40	853
65	2802	0-60	898
75	0	0-90	900
85	0	90-180	0
		0-180	900

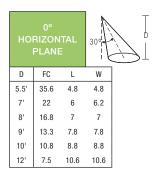


90°

75°

60°

45°



v	35° ERTIC PLANI		30%	
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

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# **Complete Lighting Controls Solutions**

Cooper Lighting Solutions' AL Series dimmers offer versatile options to set the mood and reduce energy consumption.

Visit www.cooperlighting.com for more information.







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Dimmer Features	ACCELL (AAL06)	<b>DEVINE</b> (DAL06P)	SKYE (SAL06P)	TRACE (TAL06P)
Rapid Start feature	Selectable ON or OFF	Fully adjustable	Fixed ON	Fully adjustable
Adjustable high-end trim	•			
Adjustable low-end trim	•	•	•	•
Wiring configurations	Single-pole or multi-location	Single-pole or three-way	Single-pole or three-way	Single-pole or three-way
Color change kits	•	•		•

Note: The Rapid Start feature is used to ensure the right amount of power boost during start-up. When a dimmer with Rapid Start is turned on from a low dimmer setting, the LED lighting may exhibit a momentary flash. Select dimmer models offer an adjustment of the Rapid Start feature. The user may wish to adjust this setting to reduce the boost and resulting momentary flash. If this capability is desired, the user should select dimmer models designated as "fully adjustable" or "selectable ON or OFF".





## **Sustainability**



Halo LED offers environmental and sustainable solutions that reduce carbon emissions and hazardous materials to improve the environment.

Halo LED is mercury-free, PCB-free and lead-free and thus does not need special handling for disposal. The Halo LED downlight solution contributes to reduction of carbon emissions and conserves natural resources. Halo provides solutions with LEDs that make it easy to be environmentally responsible.

# Long Life



LEDs are solid state devices that do not have filaments or glass components that could break. The light source is not susceptible to vibration, thus reducing the risk of premature failure. The Halo H4 LED design delivers over 70% of the initial light output long after 50,000 hours of projected operation. The long service life of Halo LED fixtures dramatically reduce maintenance and service costs over traditional sources.

# **Energy Saving**



#### Save over \$400\* in Energy Costs

Changing one traditional lamp to a Halo H4 LED recessed downlight will save you hundreds of dollars over the life of the fixture. Changing multiple fixtures will significantly lower your electric bill and change how you view lighting.

The Halo H4 LED fixture is more efficient than traditional light sources. For example, the H4 consumes 74% less energy than a 50W MR16 lamp.

H4 LED Gen 2 Versus 50W MR16 (Dichroic) Halogen Lamp				
Annual Electricity Savings	\$11.91			

Add Up Your Lifetime Savings*	
Lifetime Electricity Savings*	\$271.61
Lifetime Lamp Replacement Savings*	\$166.17
Total Savings*	\$437.78

\* Savings based on \$0.115 per Kilowatt Hour and 6 Hours average use per day and comparable 50,000 hours LED of lamp life, 50W lumen equivalent MR16 (dichroic) halogen lamp.



In the kitchen pictured, the downlighting energy load could be reduced 74% with Halo H4 LED luminaire (compared to 50W MR16 lamps). Additionally, LED luminaires dramatically lower the impact on the air conditioning system compared to incandescent and halogen lamps.



#### **Lighting Product Lines**

Ametrix AtLite Corelite Ephesus Fail-Safe HALO HALO Commercial Invue io IRiS Lumark Lumière McGraw-Edison Metalux MWS Neo-Ray Portfolio RSA Shaper Streetworks Sure-Lites

#### **Controls Product Lines**

Greengate

#### **Connected Lighting Systems**

Fifth Light (Canada Only) HALO Home WaveLinx

#### IoT Platform

Trellix





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Product availability, specifications, and compliances are subject to change without notice.