

HALO LED H4 Series

The Halo H4 LED is a family of 4" aperture recessed downlights with H455 series housings designed for use with Halo EL4 Series LED Light Engines and compatible 4" LED trims. Halo H4 LED housings have integral LED drivers that offer dimming as a standard feature.

H455RICAT120D is an insulated ceiling, AIR-TITE™, remodel housing offering 120 volt dimming capability with many electronic low voltage (recommended) or incandescent dimmers. Designed for use with EL4 series LED Light Engines, the H455RICAT120D offers high quality downlighting along with high efficacy – the result being great lighting and significant energy savings.

Catalog #		Type
Project		
Comments		Date
Prepared by		

DESIGN FEATURES

MECHANICAL

(A) Housings

Single wall formed aluminum construction. Openings are gasketed for AIR-TITE installation. 5 1/2" height allows use in 2" x 6 joist construction. AIR-TITE aperture gasket is pre-installed.

(B) Remodel Arm

• Spring steel construction designed for ease of installation and ceiling support of LED driver.

MOUNTING

(C) Remodel Springs

• Four remodel clips secure housing and accommodate 1/2" and 5/8" ceiling material.

ELECTRICAL

(D) Junction Box

- Seven 1/2" trade size conduit knockouts with true pry-out slots
- Slide-N-Side™ connectors allow non metallic sheathed cable to be installed without tools and without removing knockouts.
- Accepts a wide range of non-metallic sheathed cables
 - The standard cable types used in lighting in both U.S. and Canada.
 - Allows wiring connections to be made outside the junction box.
 - Simply insert the cable directly into the trap after connections are made.
 - Accommodates the following standard nonmetallic sheathed cable types:
US: #14/2, #14/3, #12/2, #12/3
Canada: #14/2, #14/3, #12/2

(E) LED Connection

- LED connector is a non-screw base connector offering easy installation with the EL4 Series LED Light Engine.
- LED connector meets California Title-24 high-efficacy luminaire requirement for a non-screw base socket, and where required to qualify as a high-efficacy luminaire.
- LED dimmable driver mounts to the housing junction box.
- Driver is a 120 Volt, high efficiency, electronic power supply providing low voltage power to EL Series LED Light Engines.
- Driver meets FCC EMI/RFI Consumer Level limits for use in residential and commercial installations.
- Driver features power factor >.90, THD <20% and has integral thermal protection in the event of over temperature or internal failure.
- Driver is specifically designed for compatibility with EL4 LED Light Engines, and operate in conjunction with the LED 50,000 hour / 70% lumen maintenance performance design.
- If dimming is not required the fixture can be operated from a standard wall switch

Dimming

- The HALO H4 LED luminaire is dimmable to 15% with standard 120V electronic low voltage dimmers (recommended), incandescent or magnetic low voltage dimmers; and dims to 5% using dimmers with low end trim adjustment.
- Standard incandescent dimmers require a minimum load of typically >40 watts on the circuit for full range dimming performance (four LED modules).
- For dimming with digital (smart) multi-location dimmers or when

dimming fewer than four LED modules, electronic low voltage dimmers are required (ELV dimmers need a neutral connection in the wallbox).

- Refer to dimming application notes, and refer to dimmer manufacturers for compatibility.

Warranty

Cooper Lighting provides a three year limited warranty on Halo LED Luminaires which includes the LED Recessed Housing, LED Light Engine, and LED trims.

Compliance Labels

- UL/cUL Listed 1598 Luminaire
- UL/cUL Listed for Damp Location
- UL/cUL Listed for Wet Location, shower applications with select trims
- UL/cUL listed for Direct Contact with air-permeable Insulation and combustible material

Qualification

- Can be used for State of California Title 24-2008 high efficacy compliance (with designated LED Light Engines and Trims)
- Can be used for International Energy Conservation Code (IECC) high efficacy compliance (with designated LED Light Engines and Trims)
- Washington State Energy Code – AIR-TITE compliant
- New York State Energy Conservation Construction Code - AIR-TITE compliant
- Certified Under ASTM-E283 standard for air tight construction



H455RICAT120D

4-Inch LED Recessed Remodel Housing Insulated Ceiling – With 4" LED Light Engines and 4" LED Trims

High Efficacy LED Housing-Dimmable

FOR USE IN INSULATED CEILINGS FOR DIRECT CONTACT WITH INSULATION

ALSO SUITABLE FOR NON-IC APPLICATIONS

H4 Series LED Energy Data:

(Values at non-dimming line voltage)	
Minimum Starting Temp:	-30°C (-22°F)
EMU/RFI:	FCC Title 47 CFR, Part 18, (Consumer)
Sound Rating:	Class A standards
Input Voltage:	120V-277V
Power Factor:	>0.90
Input Frequency:	50/60Hz
THD:	<20%
Rated Wattage:	15W max.
Input Power:	13.6W
Input Current:	120mA
Driver Compliance:	UL8750, Class II rated
Maximum Non-IC (Non-Insulated Ceiling)	
Ambient Continuous Operating Temperature:	40°C (104°F)

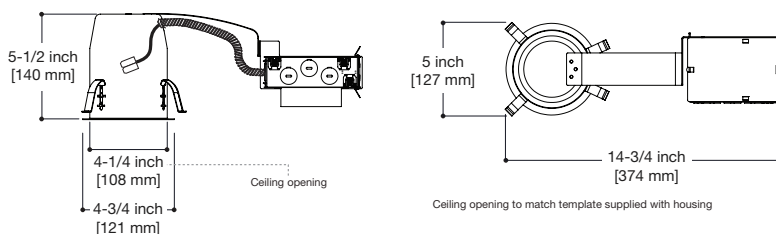
H4 Series LED

Summary Lighting Data:

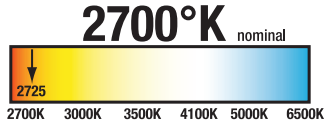
Lumen range: 534-700
 Lumens per watt: up to 46
Color
 Correlated Color Temperature (CCT): 2700-4000K
 Color Rendering Index (CRI, Ra): 80



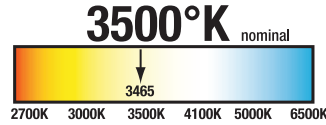
Qualified & Compliant with designated LED modules and trims.



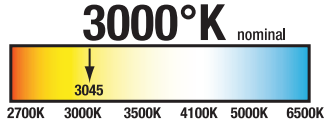
H4 LED Downlight Series – LED Light Engines



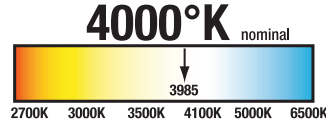
EL405827
4" LED Light Engine, 2700°K



EL405835
4" LED Light Engine, 3500°K



EL405830
4" LED Light Engine, 3000°K



EL405840
4" LED Light Engine, 4000°K

DESIGN FEATURES

Qualification

- 534 - 700 lumens (depending upon color temperature and trim selected)
- Four Correlated Color Temperature options: 2700°K, 3000°K, 3500°K, 4000°K
- 80 CRI
- Lumen Maintenance 70% lumens / 50,000 hours
- Up to 46 Lumens per Watt
- LED package consisting of an engineered conglomeration of multiple LEDs to create one virtual source, for a productive "cone of light"
- Designed for interchangeable trim choices, with selection from multiple reflector and lens trim options
- H4 LED Light Engines exceed ENERGY STAR® Qualification when used with designated LED trims*
- Can be used to meet State of California Title 24 2008 and International Energy Conservation Code – IECC 2009 High Efficacy requirements when used with designated LED trims*

*Refer to compliance matrix

MECHANICAL

(A) Upper Heat Sink

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

(B) Lower Heat Sink

- Durable die-cast aluminum construction.
- Precision keyed flange designed to lock with matching keyed slots in H4 trim rings.
- Works in conjunction with the upper heat sink for heat conduction away from the LED

MOUNTING

(C) Friction Blades

- Precision formed stainless steel spring blades provide retention of the EL series of light engines in the H455 series housings.
- Friction blade design allows the light engine to be installed in any position within the housing aperture (360 degrees).
- Tether security cable included on the light engine for attachment to the housing during installation, as recommended and when required by code.

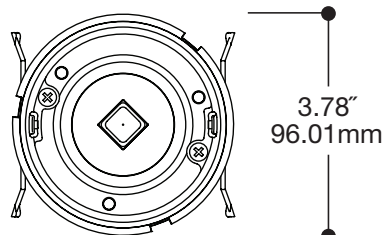
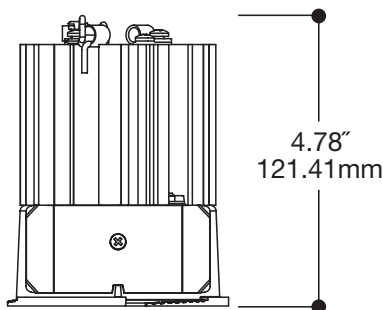
ELECTRICAL

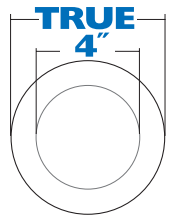
(D) LED Connection

- LED connector is a non-screw base connector offering easy installation with the H455 Series housings.
- LED connector meets California Title-24 high-efficacy luminaire requirement for a non-screw base socket, and where required to qualify as a high-efficacy luminaire.



**H4 LED
Downlight Series**
LED Light Engines





H4 LED Downlight Series – LED Trims

DESIGN FEATURES

- Superior optical design provides high lumen output, smooth beam distribution, and good visual comfort
- Precision design and materials for a high-quality fit and finish
- Multiple baffle, reflector, and lensed trim options allow Halo H4 LED recessed downlights to be used in a wide range of interior spaces
- High-quality standard and plated finishes
- Solite® lensed trims offer high-clarity glass for high-lumen transmission along with a subtle diffusion of source brightness
- Solite® lensed White Baffle and White Reflector models offer ANTIMICROBIAL paint finish – standard
- Lensed models offer Wet Location listing for Shower Applications
- H4 LED trims offer ENERGY STAR® Qualification when used with designated Halo H4 LED Light Engines*
- Can be used to meet State of California Title 24 2008 and International Energy Conservation Code – IECC 2009 High Efficacy requirements when used with designated LED Light Engines*
- TRUE 4" - Trim designs and dimensions match Halo 4" H99 and H1499 Series for a consistent true 4" family

MECHANICAL

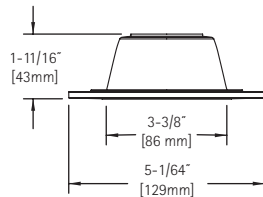
(A) Baffles and Reflectors

- Precision formed aluminum construction
- Finishes offered in White, Black, Specular Clear, Haze, Specular Black, Satin Nickel, and Tuscan Bronze
- Lensed trims with Solite® glass lens and upper specular aluminum reflector for optical control and enhanced lumen delivery

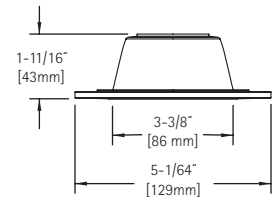
(B) Trim Rings

- Durable die-cast aluminum construction
- Precision keyed slots designed to lock with matching keyed flange on H4 LED Light Engine
- Works with LED Light Engine's heat sink to provide further heat conduction away from the LED
- Standard and optional designer finishes offered in a selection of White, Black, Satin Nickel, Tuscan Bronze, and Polished Chrome

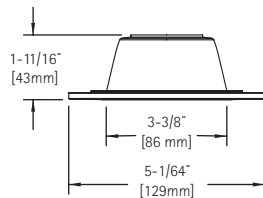
*Refer to compliance matrix



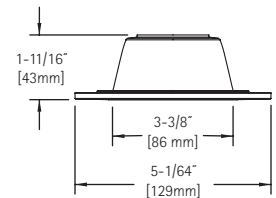
TL400SC
Specular Clear Reflector,
White Trim Ring



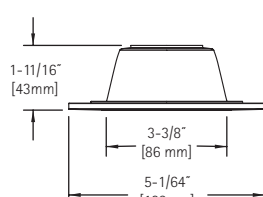
TL400H
Haze Reflector, White Trim Ring



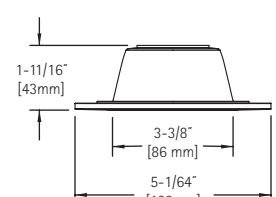
TL400WH
White Reflector,
White Trim Ring



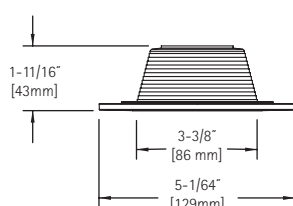
TL400SBK
Specular Black Reflector,
White Ring



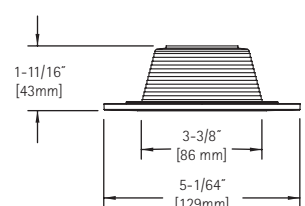
TL400SN
Satin Nickel Reflector,
Satin Nickel Ring



TL400TBZ
Tuscan Bronze Reflector,
Tuscan Bronze Ring

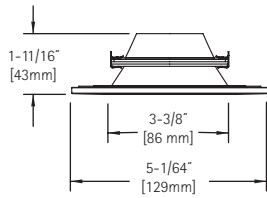


TL401WB
White Baffle, White Trim Ring

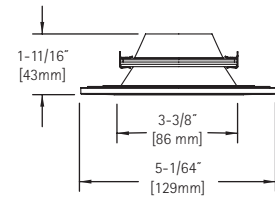


TL401BB
Black Baffle, White Ring

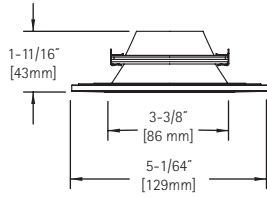
Solite® Regressed Lens Reflector and Baffle Trims
Wet Location listed for Shower Applications



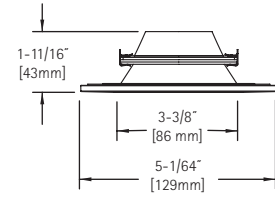
TL402SCS
Specular Clear Reflector with Solite® Regressed Lens, White Trim Ring



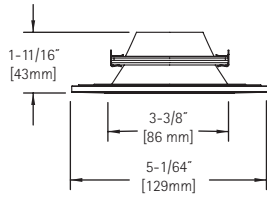
TL402HS
Haze Reflector with Solite® Lens, White Trim Ring



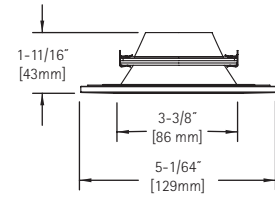
TL402WHS
White Reflector with Solite® Lens, White Trim Ring



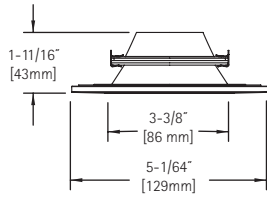
TL402SBKS
Specular Black Reflector with Solite® Lens, White Trim Ring



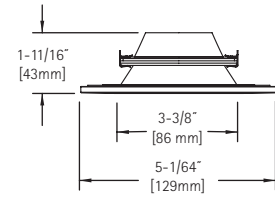
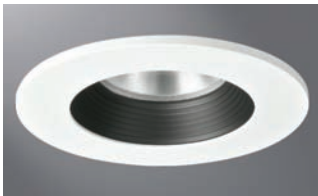
TL402SNS
Satin Nickel Reflector with Solite® Lens, Satin Nickel Trim Ring



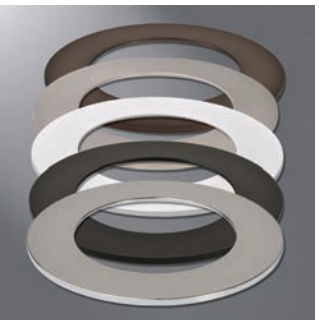
TL402TBZS
Tuscan Bronze Reflector with Solite® Lens, Tuscan Bronze Trim Ring



TL403WBS
White Baffle with Solite® Lens, White Trim Ring



TL403BBS
Black Baffle with Solite® Lens, White Trim Ring



TRM400
Designer Trim Rings

- Optional accessory
- Die-cast trim ring
- Thin Profile provides subtle ceiling appearance (.120" at OD and .180" at ID)

TRM400WH	White
TRM400BK	Black
TRM400SN	Satin Nickel
TRM400TBZ	Tuscan Bronze
TRM400PC	Polished Chrome

PHOTOMETRY

White Baffle, Open

Trim TL401WB	LED Module, 3500K EL405835
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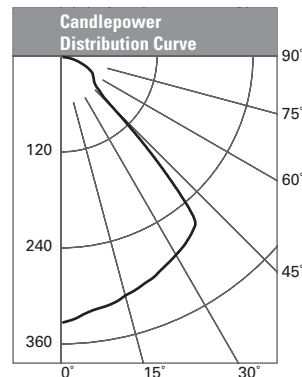
Spacing Criteria = 1.3
Lumens per Watt = 44.17
Test No. P20077

LUMINANCE (Average Candela/M ²)	
Degrees	Avg. 0° Luminance
45	15868
55	10318
65	11087
75	9528
85	7074

Candela Distribution	
Degrees Vertical	Candela
0	332
5	322
15	308
25	293
35	276
45	91
55	48
65	38
75	20
85	5
90	0

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0-30	254	N/A	40.7
0-40	427	N/A	68.5
0-60	558	N/A	89.7
0-90	623	N/A	100
0-180	623	N/A	100

Cone of Light		
Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter (ft)
5" 5"	11	10.1
7" 0"	7	12.9
8" 0"	5	14.8
9" 0"	4	16.6
10" 0"	3	18.4



White Baffle, Solite Lens

Trim TL403WBS	LED Module, 3500K EL405835
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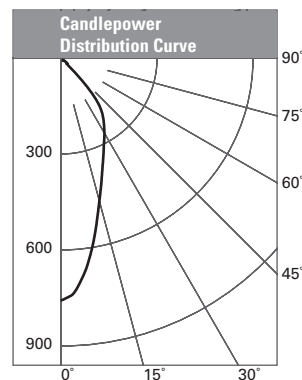
Spacing Criteria = 0.6
Lumens per Watt = 44.27
Test No. P20081

LUMINANCE (Average Candela/M ²)	
Degrees	Avg. 0° Luminance
45	18309
55	5589
65	5543
75	4288
85	2829

Candela Distribution	
Degrees Vertical	Candela
0	753
5	698
15	464
25	317
35	234
45	105
55	26
65	19
75	9
85	2
90	0

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0-30	341	N/A	54.6
0-40	487	N/A	78.0
0-60	594	N/A	95.1
0-90	624	N/A	100
0-180	624	N/A	100

Cone of Light		
Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter (ft)
5" 5"	25	7.1
7" 0"	15	9.0
8" 0"	12	10.3
9" 0"	9	11.6
10" 0"	8	12.9



Specular Clear, Open

Trim TL400SC	LED Module, 3500K EL405835
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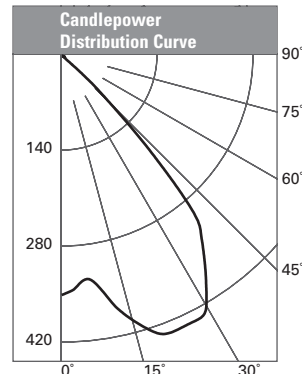
Spacing Criteria = 1.3
Lumens per Watt = 48.54
Test No. P20074

LUMINANCE (Average Candela/M ²)	
Degrees	Avg. 0° Luminance
45	19879
55	1290
65	1167
75	953
85	1415

Candela Distribution	
Degrees Vertical	Candela
0	349
5	331
15	399
25	433
35	363
45	114
55	6
65	4
75	2
85	1
90	0

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0-30	346	N/A	50.5
0-40	573	N/A	83.6
0-60	679	N/A	99.0
0-90	686	N/A	100
0-180	686	N/A	100

Cone of Light		
Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter (ft)
5" 5"	12	10.3
7" 0"	7	13.1
8" 0"	6	15.0
9" 0"	4	16.9
10" 0"	4	18.8



Specular Clear, Solite Lens

Trim TL402SCS	LED Module, 3500K EL405835
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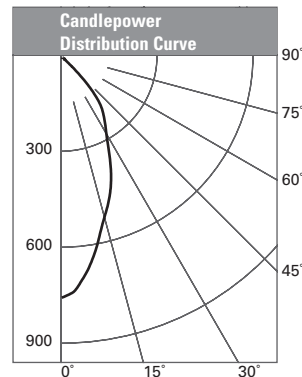
Spacing Criteria = 0.7
Lumens per Watt = 43.53
Test No. P20078

LUMINANCE (Average Candela/M ²)	
Degrees	Avg. 0° Luminance
45	15694
55	2795
65	2042
75	953
85	1415

Candela Distribution	
Degrees Vertical	Candela
0	751
5	702
15	516
25	358
35	231
45	90
55	13
65	7
75	2
85	1
90	0

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Fixture
0-30	375	N/A	61.1
0-40	519	N/A	84.7
0-60	603	N/A	98.3
0-90	613	N/A	100
0-180	613	N/A	100

Cone of Light		
Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter (ft)
5" 5"	25	7.1
7" 0"	15	9.0
8" 0"	12	10.3
9" 0"	9	11.6
10" 0"	8	12.9



PHOTOMETRY SUMMARY

	Trim Model	TL400SC	TL400H	TL400WH	TL401WB	TL402SCS	TL402HS	TL402WHS	TL403WBS
H4 LED Light Engine	Trim Type	Open Specular Reflector	Open Haze Reflector	Open White Reflector	Open White Baffle	Solite® Lens Specular Clear Reflector	Solite® Lens Haze Reflector	Solite® Lens White Reflector	Solite® Lens White Baffle
EL405827	LUMENS	603	566	551	539	535	534	539	536
EL405830	LUMENS	655	619	606	593	584	575	590	584
EL405835	LUMENS	686	653	636	623	613	613	630	624
EL405840	LUMENS	700	667	653	639	624	615	629	625

COMPLIANCE MATRIX

HALO H4 LED Compliance Summary

Symbol Qualification Standard¹

- ES** ENERGY STAR® Program Requirements for Solid State Lighting Luminaires Eligibility Criteria
- T24** California Energy Commission 2008 Building Energy Efficiency Standards, California Code of Regulations Title 24, Part 1 -- High Efficacy Luminaire
- IECC** 2009 International Energy Conservation Code® -- “High Efficacy Lamps” and Section 404 “Electrical Power and Lighting Systems”

Symbol Base Standards for Compliance²

- ES** Lumens & Efficacy <4.5” aperture = 345 Lumens and >4.5” aperture = 575 Lumens; plus a minimum 35 LpW
- T24** Efficacy >5 Watts to 15W = 40 LpW and >15W to 40W = 50 LpW
- IECC** Efficacy Efficacy standards with minimum LpW based upon lamp / source wattage. Refer to 2009 IECC “High-Efficacy Lamps”

¹Qualification Note: There are more details associated with these standards. Consult the specific standard for complete qualification and compliance requirements.

²Compliance Note: Efficacy is measured in Lumens per Watt (LpW).

H4 LED	TL400SC	TL400H	TL400WH	TL401WB	TL402SCS	TL402HS	TL402WHS	TL403WBS	TL400SN	TL400TBZ	TL400SBK	TL401BBT	TL402SNS	TL402TBZS	TL402SBKS	TL403BBS
EL405827	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	T24	T24	T24	T24	*	*	*	*	*	*	*	*	*	*	*	*
	IECC	IECC	IECC	IECC	*	*	*	*	*	*	*	*	*	*	*	*
EL405830	ES	ES	ES	ES	ES	ES	ES	ES	*	*	*	*	*	*	*	*
	T24	T24	T24	T24	T24	T24	T24	T24	*	*	*	*	*	*	*	*
	IECC	IECC	IECC	IECC	IECC	IECC	IECC	IECC	*	*	*	*	*	*	*	*
EL405835	ES	ES	ES	ES	ES	ES	ES	ES	*	*	*	*	*	*	*	*
	T24	T24	T24	T24	T24	T24	T24	T24	*	*	*	*	*	*	*	*
	IECC	IECC	IECC	IECC	IECC	IECC	IECC	IECC	*	*	*	*	*	*	*	*
EL405840	ES	ES	ES	ES	ES	ES	ES	ES	*	*	*	*	*	*	*	*
	T24	T24	T24	T24	T24	T24	T24	T24	*	*	*	*	*	*	*	*
	IECC	IECC	IECC	IECC	IECC	IECC	IECC	IECC	*	*	*	*	*	*	*	*

***Note:**

Halo is committed to providing the latest in qualification testing to ENERGY STAR® SSL, Title 24-2008 and IECC-2009 standards. With continuing improvements in LED technology and Halo’s commitment to continuous updates in qualification testing, refer to LED Light Engine product specification sheets online for the latest in compliance qualification status. As an ENERGY STAR® Partner, Cooper Lighting adheres to the stringent standards of ENERGY STAR® SSL, and maintains the highest level of compliance qualification.

120V DIMMING FEATURES:

H4 Collection housings - H455ICAT120D, H455RICAT120D

Standard Dimming Control

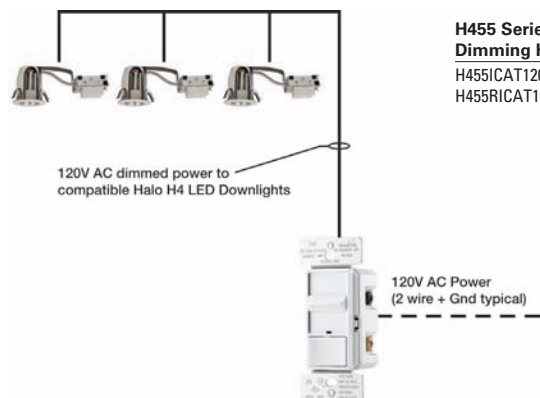
Standard "incandescent type" 120V line voltage dimming is offered for the H4 LED Collection on housings: H455ICAT120D and H455RICAT120D. This is the most common type of dimming for residential and light commercial applications.

120VAC Standard Dimming - Incandescent and Magnetic Low Voltage Dimmers

Standard 120VAC line voltage dimmers for incandescent and magnetic low voltage loads control the light source with "forward phase control". With forward phase control the dimmer "chops" the forward part of the AC wave to deliver less or more power to the light source. Halo LED is generally compatible with this type of dimmer, but minimum load requirements of the dimmer may require four or more LEDs on the circuit. In addition, digital or smart versions of incandescent and magnetic low voltage dimmers are not compatible for circuits with LEDs only (digital versions of incandescent dimmers require an incandescent load on the circuit). Therefore, the recommended dimmer for many applications is the electronic low voltage dimmer.

120VAC Standard Dimming - Electronic Low Voltage

Standard 120VAC line voltage dimmers for electronic low voltage loads control the light source with "reverse phase control". With reverse phase control the dimmer "chops" the back part of the AC wave to deliver less or more power to the light source. H4 LED H455ICAT120D and H455RICAT120D are compatible with this type of dimmer providing there is a neutral connection on the dimmer (connected to neutral in the wallbox). An ELV dimmer can typically control a minimum of one LED on the circuit. In addition, digital or smart versions of electronic low voltage dimmers (with a neutral connection) are typically compatible for circuits with LEDs. Therefore, an electronic low voltage dimmer is recommended for many applications, and required for less than four LEDs and when a digital type dimmer is desired.



Recommended Electronic Low Voltage Digital and Analog Dimmers, Minimum Circuit Load of One LED Module, Dimming to 15% Requires a neutral in the wall box

LUTRON®*		Nova T®	NTELV & NTLV Series
Diva®	DVELV Series	Skylark®	SELV Series
Maestro®	MAELV Series	Vierti®	VTELV Series
Nova®	NLV Series		

Leviton

Acenti®	ACE. Series (Electronic low voltage dimmer with low end programmable trim from control panel for dimming to less than 5%)
IllumaTech™	IPE.Series (Electronic low voltage dimmer with low end manual trim behind face plate for dimming to less than 5%)
Vizia +	VPE.Series (Electronic low voltage dimmer with low end programmable trim from control panel for dimming to less than 5%)

* Refer to Lutron "LED Product Report Card" for additional information.

Incandescent / Magnetic Low Voltage Analog Standard Dimmers with Circuit Load of 4 LED Modules or More, Dimming to 15%

Cooper Wiring Devices

ASPIRE™	9530, 9532, 9538, 9540
Decorator Slide	D106P, D110P
Decorator Full-Slide	S1061, S106P, S110P
Toggle	6441, 6443, 6453
Rotary	6001, 6013, 6000, 6003, 6020, 6023
Architectural Rotary	RAI10, RAI15, RAI20

Lutron

Ariadni®AY/TG Series	Lumea™LG Series
Ceana™CN Series	Lyneo™LX Series
Centurion®C Series	Nova®N Series
Dalia™DL Series	Nova T®NT/NTB/NTA Series
Diva®DV Series	Oto™Q Series
Glyder®GL Series	Skylark®S Series

* Refer to Lutron "LED Product Report Card" for additional information.

Leviton

IllumaTech™	IPI/RPI.Series	Trimatron™	6681/6683/6602
SureSlide™	663.Series	TrueTouch™	6606-1LM

Incandescent Dimmers with Minimum Brightness Adjustment (Low End Trim), Circuit Load of 4 LED Modules or More, Dimming to 5%

Leviton

IllumaTech™	IP10/IP40/IPM406/IPM10 Series dimmers
Acenti®	ACI/ACE/ACX/ATI Series (Programmable trim)
Vizia +	VPI/VPE/VPX.Series (Programmable trim)

Whole House Integrated Control Systems

LUTRON®*

Homworks®	HW-RPM-4A-120 Remote Power Module-Adaptive Dimming
	HW-RPM-4V-120 Remote Power Module-Dimming
	HWD-5NE, HRD-5NE Wired Maestro and RF Maestro Local Controls

* Refer to Lutron "LED Product Report Card" for additional information.

Commercial Integrated Control Systems

LUTRON®*

Commercial Panel Systems	LP-RPM-4A120 Remote Power Module - Adaptive Dimming
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* Refer to Lutron "LED Product Report Card" for additional information.

Universal Wireless Dimmers (Incandescent, Magnetic Low Voltage, Electronic Low Voltage), Minimum Circuit Load of Two LED Modules, Dimming to 15%

Watt Stopper®

Miro Universal	DRD4 Series Dimmers
	DCD267 Series Dimmers
	DCD68 (series multilocation - When used with DRD4 or DCD267 series master dimmers)

Incandescent Wireless Dimmers, Minimum Circuit Load of Five LED Modules, Dimming to 15%

A 15W minimum incandescent load or a neutral in the wall box are recommended to reliably dim

Watt Stopper®

Miro Incandescent	DRD2 Series Dimmers
	DCD26 Series Dimmers
	DCD68 (series multilocation - When used with DRD2 or DCD26 series master dimmers)

Application Notes

- LED Dimming performance may vary from incandescent dimming. Performance results may vary based upon dimmer model, manufacturer, circuit wiring and circuit loading.
- Dimmer maximum load rating with LED may differ from published Incandescent and Electronic Low Voltage dimmer ratings. Consult dimmer manufacturer for maximum dimmer load with Halo LED.
- There are no warranties of performance or compatibility implied.

SPECIAL NOTE:

Incandescent Digital Dimmers (also called Smart or Multi-Location) require an incandescent load. For circuit loads with LED modules only - use electronic low voltage dimmers, (Refer to Electronic Low Voltage dimmer matrix)

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Micro is product of Watt Stopper®/Legrand®

ORDERING INFORMATION

SAMPLE NUMBER: H455RICAT120D EL405827 TL400SC

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

H4 LED Housing			H4 LED Light Engine				H4 LED Trim
H455	RICAT	120D	EL4	05	8	27	TL40x
<p>H455= 4" Housing H4 LED Series Downlight</p>			<p>EL4= 4" LED Downlight Light Engine</p>				<p>TL400SC=Specular Clear Reflector, White Trim Ring TL400H=Haze Reflector, White Trim Ring TL400WH=White Reflector, White Trim Ring TL400SBK=Specular Black Reflector, White Trim Ring TL400SN=Satin Nickel Reflector, Satin Nickel Trim Ring TL400TBZ=Tuscan Bronze Reflector, Tuscan Bronze Trim Ring TL401WB=White Baffle, White Trim Ring TL401BB=Black Baffle, White Trim Ring TL402SCS=Specular Clear Reflector with Solite® Lens, White Trim Ring TL402HS=Haze Reflector with Solite® Lens, White Trim Ring TL402WHS=White Reflector with Solite® Lens, White Trim Ring TL402SBKS=Specular Black Reflector with Solite® Lens, White Trim Ring TL402SNS=Satin Nickel Reflector with Solite® Lens, Satin Nickel Trim Ring TL402TBZS=Tuscan Bronze Reflector with Solite® Lens, Tuscan Bronze Trim Ring TL403WBS=White Baffle with Solite® Lens, White Trim Ring TL403BBS=Black Baffle with Solite® Lens, White Trim Ring</p>
<p>RICAT= Remodel, Insulated Ceiling, AIR-TITE</p>			<p>120D= LED driver, 120V, 50/60Hz, Dimmable - most standard electronic low voltage (recommended) and incandescent/ magnetic low voltage dimmers (see dimming application notes, and refer to dimmer manufacturers for compatibility)</p>				
			<p>05= 550 Design Lumens*</p>				
			<p>8= 80 CRI</p>				
			<p>27=2725°K 30=3045°K 35=3465°K 40=3985°K</p>				

* Lumen output range of 534-700 lumens (depending upon color temperature and trim)

Accessories

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Designer Trim Rings, Thin Profile
TRM400WH=White, die-cast trim ring
TRM400BK=Black, die-cast trim ring
TRM400SN=Satin Nickel, die-cast trim ring
TRM400TBZ=Tuscan Bronze, die-cast trim ring
TRM400PC=Polished Chrome, die-cast trim ring

3 YEAR PRODUCT LIMITED WARRANTY

Cooper Lighting (The Company) warrants the HALO H4x Series LED housings, Halo EL4x Series LED Light Engines, and HALO TL4x Series LED Trims against defects in material or workmanship for a period of three years from date of original purchase, and agrees to repair or, at the company's option, replace a defective product without charge for either replacement parts or labor during such time. This does not include labor to remove or install fixtures. This warranty is extended only to the original purchaser of the product. A purchaser's receipt or other proof of date of original purchase acceptable to the Company is required before warranty performance shall be rendered. This warranty only covers product failure due to defects in materials or workmanship which occurs in normal use. It does not cover the failure of product caused by accident, misuse, abuse, lack of reasonable care, alteration, or faulty installation, subjecting the product to any but the specified electrical service or any other failure not resulting from defects in materials or workmanship. Damage to the product caused

by separately purchased, non-Company supplied components and corrosion or discoloration of components are not covered by this warranty. There are no express warranties except as described above. THE COMPANY SHALL NOT BE LIABLE FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL IMPLIED WARRANTIES, IF ANY, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS WARRANTY. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you. No other warranty, written or verbal, is authorized by the Company. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

To obtain warranty service, please write to Cooper Lighting, 1121 Highway 74 South, Peachtree City, Georgia 30269. Enclose product model number and problems you are experiencing, along with address and telephone number. You will then be contacted with a solution or a Return Goods Authorization number and full instructions for returning the product. All returned products must be accompanied by a Return Goods Authorization Number issued by the Company and must be returned freight prepaid. Any product received without a Return Goods Authorization Number from the Company will be refused. Cooper Lighting is not responsible for merchandise damaged in transit. Repaired or replaced products shall be subject to the terms of this warranty and are inspected when packed. Evident or concealed damage that is made in transit should be reported at once to the carrier making the delivery and a claim filed with them.

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