HALO

DESCRIPTION - H4 LED 2ND GENERATION DOWNLIGHT TRIMS

Halo H4 LED is a three part system of 4" recessed downlights with EL406 Series LED Light Engines and TL4 and TLS4 Series LED Trims designed for installation in H4 LED H457 series housings with integral LED dimmable drivers. Halo LED Downlight Trims are offered in lensed baffles and reflectors; and wet location shower rated models. TL4 and TLS4 Series LEDTrims are compatible with EL406 LED light engines only. Halo LED offers high quality, fit, finish, and performance in an energy-efficient, high-efficacy downlight.

Catalog #	Туре
Project	
Comments	Date
Prepared by	

SPECIFICATION FEATURES

MECHANICAL Baffles and Reflectors

- Precision formed aluminum
- High quality reflector finishes offered in White, Specular Clear, Haze, Specular Black, Satin Nickel, and Tuscan Bronze
- Baffle finishes offered in White and Black

Trim Rings

- Durable die-cast aluminum
- Precision keyed slots designed to lock with matching keyed bosses in H4 LED Light Engine
- Works with LED Light Engine's heat sink to provide further thermal conduction away from the LED
- Standard finishes offered in White, Black, Satin Nickel, and Tuscan Bronze.
- Optional, thin profile designer trim rings offered in White, Black, Satin Nickel, Tuscan Bronze, and Polished Chrome finishes.
- Thin profile designer trim rings have a tapered appearance.
 Thickness dimensions: 0.120" at OD and 0.180" at ID.

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 trim options allow Halo H4 LED recessed downlights to be used in a wide range of interior spaces
- High-quality standard and plated finishes
- Diffuse dome polymer (polycarbonate plastic) lens models offer a familiar "bulblike" appearance, and are impact resistant
- Solite[®] flat glass lensed trims offer high-clarity for high-lumen transmission along with a subtle diffusion of source brightness
- Solite® and Diffuse Dome Lensed models are UL/cUL listed for Wet Location, (shower rated) and are IP66 Ingress Protection rated for dust and water
- "Dead front" shower trim features a non-electrically conductive (plastic). One piece baffle, ring, and lens are formed from plastics
 - special polymers to meet Halo performance and quality standards.

- H4 LED trims offer ENERGY STAR® Certification when used with designated Halo H4 LED Light Engines*
- 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 Light Engines*
- *Refer to compliance matrix

Warranty

Cooper Lighting Solutions 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 Solutions Terms and Conditions of sale. Refer to www.cooperlighting .com)



H4 LED Downlight Trims

TL402, TL403, TL408, TL409, TL410, TL411, TL422

4-Inch LED Trims

FOR USE WITH EL4 LED LIGHT ENGINES AND H455, H456 AND H457 SERIES 4" LED HOUSINGS

Complete fixture consists of LED Housing, LED Light Engine and LED trim.

High Efficacy LED











Refer to ENERGY STAR® Certified Products List. Can be used to comply with California Title 24 High Efficacy requirements. Certified to California Appliance Efficiency Database under JA8.



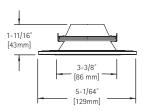
page 2 TL4 and TLS4 Series

H4 LED 2ND GENERATION DOWNLIGHT SERIES - LED TRIMS

SQUARE SOLITE® GLASS LENS BAFFLE TRIMS

Wet Location Listed For Shower Applications

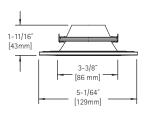




TLS408WHWB

Square Baffle Trim with Solite® Glass Lens, White Baffle, White Ring

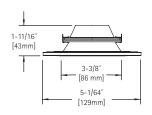




TLS408SNBB

Square Baffle Trim with Solite® Glass Lens, Black Baffle, Satin Nickel Ring

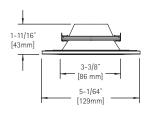




TLS408WHBB

Square Baffle Trim with Solite® Glass Lens, Black Baffle, White Ring



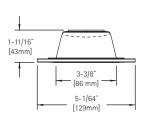


TLS408TBZBB

Square Baffle Trim with Solite[®] Glass Lens, Black Baffle, Tuscan Bronze Ring

WALL WASH TRIMS

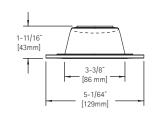




TL409WW

Wall Wash Downlight - Semi-Specular Clear Reflector with Specular Wall Wash Optic, Diffuse Polymer Lens and White Ring



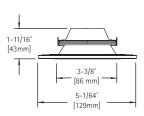


TL409WHWW

Wall Wash Downlight - White Reflector with Specular Wall Wash Optic, Diffuse Polymer Lens and White Ring

"DEAD FRONT" POLYMER SHOWER TRIM





TL422PS

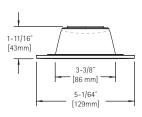
One-piece White Polymer (plastic) Baffle, Ring, and Prismatic Lens formed from special polymers. Shower Trim front is Non-Electrically Conductive "Dead-Front".



DEEP REGRESSED REFLECTOR AND BAFFLE TRIMS WITH DIFFUSE POLYMER DOME LENS

Wet Location Listed For Shower Applications

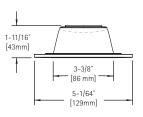




TL410SC

Specular Clear Reflector, Diffuse Dome (polymer) Lens, White Ring

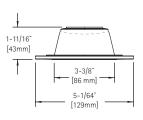




TL410H

Haze Reflector, Diffuse Dome (polymer) Lens, White Ring

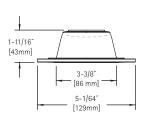




TL410WH

White Reflector, Diffuse Dome (polymer) Lens, White Ring

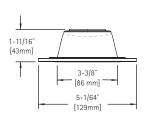




TL410SBK

Specular Black Reflector, Diffuse Dome (polymer) Lens, White Ring

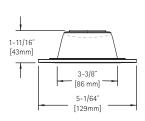




TL410SN

Satin Nickel Reflector, Diffuse Dome (polymer) Lens, Satin Nickel Ring

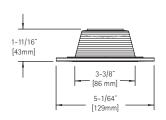




TL410TBZ

Tuscan Bronze Reflector, Diffuse Dome (polymer) Lens, Tuscan Bronze Ring

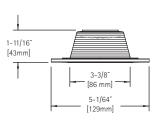




TL411WB

White Baffle, Diffuse Dome (polymer) Lens, White Ring





TL411BB

Black Baffle, Diffuse Dome (polymer) Lens, White Ring



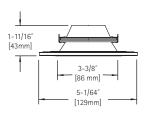
page 4 L4 and TLS4 Series

H4 LED 2ND GENERATION DOWNLIGHT SERIES - LED TRIMS

REFLECTOR AND BAFFLE TRIMS WITH SOLITE® GLASS LENS

Wet Location Listed For Shower Applications

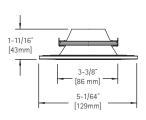




TL402SCS

Specular Clear Reflector with Solite® Glass Lens, White Ring

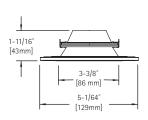




TL402WHS

White Reflector with Solite® Glass Lens, White Ring

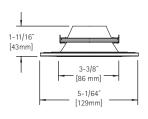




TL402SNS

Satin Nickel Reflector with Solite® Glass Lens , Satin Nickel Ring

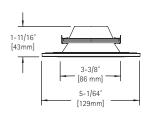




TL403WBS

White Baffle with Solite $^{\circledR}$ Glass Lens, White Ring

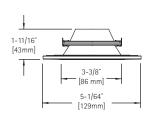




TL402HS

Haze Reflector with Solite® Glass Lens, White Ring

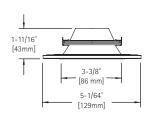




TL402SBKS

Specular Black Reflector with Solite® Glass Lens, White Ring

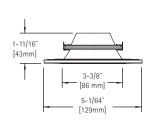




TL402TBZS

Tuscan Bronze Reflector with Solite® Glass Lens, Tuscan Bronze Ring





TL403BBS

Black Baffle with Solite® Glass Lens, White Ring



Designer Trim Rings

- Optional accessory
- Die-cast trim ring
- Thin Profile provides subtle ceiling appearance (.120" at OD and .180 at ID)
- For use with TL4 round trims (not compatible with TLS4 square trims)

• For use w

TRM400TBZ
TRM400SN
TRM400WH

Tuscan Bronze Satin Nickel White

TRM400BK TRM400PC Black Polished Chrome



page 5 TL4 and TLS4 Series

H4 LED 2nd Generation Downlight Collection - Lumen and Compliance Summary

H4 LED Down Collection	light	E	LG40692	27 - 2700	ĸ	E	LG4069	30 - 3000	ĸ	E	ELG4069	35 - 3500)K	E	LG4069	40 - 4000)K
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® 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® 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

page 6 TL4 and TLS4 Series

Halo H4 LED 2nd Generation Downlight Photometry

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	

EL406930-TL410SC

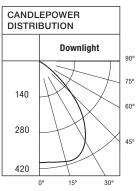
Test Number P123670 LED Module

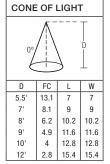
4" Specular Clear Reflector, Polycarbonate Trim

Frost Dome Lens, White Ring

55.4 Lm/W SC 1.29 / 1.29 / 1.25







LUMINANCE DATA					
Angle	0°				
45	41329				
55	14297				
65	1601				
75	685				
85	0				

ZONAL LUMEN SUMMARY							
Zone	Lumens	%Fixture					
0-30	333	46.2					
0-40	527	73.2					
0-60	714	99.2					
0-90	720	100.0					
90-180	0	0.0					
0-180	720	100.0					

EL406930-TL411WB

Test Number P123690

Trim

Lumens

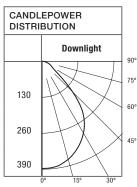
LED Module EL406930

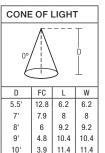
4" White Baffle, Polycarbonate Frost

Dome Lens, White Ring 53.1 Lm/W

sc 1.16 / 1.16 / 1.2







12' 2.7 13.8

13.8

LUMINANCE DATA					
0°					
48625					
21600					
18264					
16267					
10819					

ZONAL LUMEN								
SUMMARY								
Zone	Lumens	%Fixture						
0-30	290	42.0						
0-40	455	66.0						
0-60	630	91.3						
0-90	690	100.0						
90-180	0	0.0						
0-180	690	100.0						

EL406930-TL402SCS

P123702 Test Number LED Module EL406930

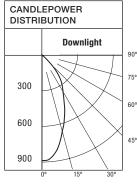
4" Specular Clear Reflector w/ Solite® Trim

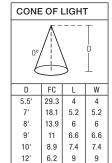
Glass Lens , White Ring

59.2 Lm/W

SC 0.75 / 0.75 / 0.84







LUMINANCE DATA						
Angle	Angle 0°					
45	25791					
55	4747					
65	3240					
75	0					
85	0					

SUMMARY								
Zone	Lumens	%Fixture						
0-30	472	61.3						
0-40	652	84.7						
0-60	760	98.7						
0-90	770	100.0						
90-180	0	0.0						
0-180	770	100.0						

EL406930-TL403WBS

Test Number P123714 LED Module EL406930

4" White Baffle w/ Solite[®] Glass Lens, Trim

White Ring Lumens 58.5 Lm/W

SC 0.66 / 0.66 / 0.82



-	EPOWER BUTION	
	Downlight	
		90°
300		75°
		60°
600	$H \setminus X$	45°
000		

CONE OF LIGHT						
0° D						
D	FC	L	W			
5.5'	28.9	3.6	3.6			
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			

LUMINANCE DATA					
0°					
28616					
8005					
6824					
3921					
2033					

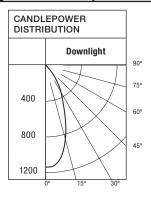
ZONAL LUMEN SUMMARY								
Zone Lumens %Fixture								
0-30	424	55.8						
0-40	606	79.7						
0-60	733	96.4						
0-90	760	100.0						
90-180	0	0.0						
0-180	760	100.0						



page 7 TL4 and TLS4 Series

Halo H4 LED 2nd Generation Downlight Photometry

EL406930-TLS408WHWB								
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 OF LIGHT								
000								
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'	12' 7.9 8.4 8.2							

DD

2' 3' 4' 5' 6' 7' 8' 9'

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

MULTIPLE UNIT FOOTCANDLES 2.5' FROM WALL (Spacing Between Fixtures)

8.9 18 13.5 9.2

6.4 4.5 3.2 2.4 1.8

16.1 11.7 8.1 5.7 4 2.9 2.2 1.7 13.9 11.9 8.8 6.2 4.4 3.2 2.4 1.8 16.1 11.7 8.1 5.7 4 2.9 2.2 1.7

4.4

--3'--

7.5

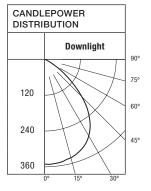
18 13.5 9.2

6.4 4.5 3.2 2.4 1.8

19.5 14.5 10.1 7 4.8 3.4 2.5 1.8

ZONAL LUMEN SUMMARY								
Zone	%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	EL406930-TL409WW							
Test Number	P123730							
Light Module	EL406930							
Trim	4" Wall Wash, Semi-Specular Clear Reflector, White Ring							
Lumens	53.8 Lm/W							
sc	1.19 / 1.24 / 1.22							



SINGLE UNIT FOOTCANDLES								
		2.5' FROM WALL (Distance From Fixture Along Wall)						
DD		1'	2'	3'	4'	5'	6'	
1'	8.1	5.6	2.2	0.7	0.2	0.1	0	
2' 3'	14.9	12.3	6.9	3.1	1.3	0.5	0.2	
	9.7	8.5	5.9	3.8	2	0.9	0.4	
4'	6.2	5.7	4.4	3	1.9	1.2	0.6	
5'	4	3.8	3.1	2.4	1.6	1.1	0.7	
6'	2.7	2.6	2.2	1.8	1.4	1	0.7	
7'	1.9	1.8	1.6	1.4	1.1	0.8	0.6	
8'	1.3	1.3	1.2	1	0.9	0.7	0.5	
9'	1	0.9	0.9	0.8	0.7	0.6	0.5	
10'	0.7	0.7	0.7	0.6	0.6	0.5	0.4	

An	gle	0°		Zon	Zone Lumens		S
LUMINANCE DATA			Ά	ZON	AL L	UMEN	SUM
10'	0.7	0.7	0.7	0.6	0.6	0.5	0.4
9'	1	0.9	0.9	0.8	0.7	0.6	0.5
8'	1.3	1.3	1.2	1	0.9	0.7	0.5
7'	1.9	1.8	1.6	1.4	1.1	0.8	0.6
6'	2.7	2.6	2.2	1.8	1.4	1	0.7
5'	4	3.8	3.1	2.4	1.6	1.1	0.7
4'	6.2	5.7	4.4	3	1.9	1.2	0.6
3'	9.7	8.5	5.9	3.8	2	0.9	0.4
2'	14.9	12.3	6.9	3.1	1.3	0.5	0.2

MINAN	MINANCE 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



page 8 TL4 and TLS4 Series

ORDERING INFORMATION

SAMPLE NUMBER: H457ICAT1E - EL406930 - TL410SC

Complete unit includes H4 LED housing, light engine and trim; ordered separately. Housing: Refer to housing specification sheets for specification and details.

(Note H4 LED Adjustable Gimbals are available. The H4 Adjustable Gimbals feature a combined trim and light engine, and are not compatible with H4 LED downlight trims. Refer to Adjustable Gimbal Light Engine specification sheets for details.

Trim Options 1

TL410SC = Specular Clear Reflector, Diffuse Polymer Dome Lens, White Ring, Shower Rated

TL410H = Haze Reflector, Diffuse Polymer Dome Lens, White Ring, Shower Rated

TL410WH = White Reflector, Diffuse Polymer Dome Lens, White Ring, Shower Rated

TL410SN = Satin Nickel Reflector, Diffuse Polymer Dome Lens, Satin Nickel Ring, Shower Rated

TL410TBZ = Tuscan Bronze Reflector, Diffuse Polymer Dome Lens, Tuscan Bronze Ring, Shower Rated

TL410SBK = Black Specular Reflector, Diffuse Polymer Dome Lens, White Ring, Shower Rated

TL411WB = White Baffle, Diffuse Polymer Dome Lens, White Ring, Shower Rated

TL411BB = Black Baffle, Diffuse Polymer Dome Lens, White Ring, Shower Rated

TL402SCS = Specular Clear Reflector, Solite® Glass Lens, and White Ring, Shower Rated

TL402HS = Haze Reflector, Solite® Glass Lens, and White Ring, Shower Rated

TL402WHS = White Reflector, Solite® Glass Lens, and White Ring, Shower Rated

TL402SNS = Satin Nickel Reflector, Solite® Glass Lens, and Satin Nickel Ring, Shower Rated

TL402TBZS = Tuscan Bronze Reflector, Solite® Glass Lens, and Tuscan Bronze Ring, Shower Rated

TL402SBKS = Black Specular Reflector, Solite® Glass Lens, and White Ring, Shower Rated

TL403WBS = White Baffle, Solite® Glass Lens, and White Ring, Shower Rated

TL403BBS = Black Baffle, Solite® Glass Lens, and White Ring, Shower Rated

TLS408WHWB = Square Baffle Trim, Solite® Glass Lens, White Ring with White Baffle, Shower Rated

TLS408WHBB = Square Baffle Trim, Solite® Glass Lens, White Ring with Black Baffle, Shower Rated

TLS408SNBB = Square Baffle Trim, Solite® Glass Lens, Satin Nickel Ring with Black Baffle, Shower Rated

TLS408TBZBB = Square Baffle Trim, Solite® Glass Lens, Tuscan Bronze Ring with Black Baffle, Shower Rated

TL409WW = Wall Wash, Semi-Specular Clear Reflector with White Ring, Shower Rated

TL409WHWW = Wall Wash, White Reflector with White Ring, Shower Rated

TL422PS = Polymer "Dead Front" White Baffle & Regressed Lens, White Ring, Shower Rated

Thin Profile Designer Trim Rings For use with Round TL4 trims (not compatible with Square TLS4 trims)

TRM400WH = White TRM400BK = Black

TRM400SN = Satin Nickel

TRM400TBZ = Tuscan Bronze

TRM400PC = Polished Chrome

Notes:

1 Compatible with H4 LED Light Engines

1st Gen	2nd Gen
EL405827	EL406927
EL405830	EL406930
EL405835	EL406935
EL405840	EL406940

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