



A direct replacement for conventional CFL downlights up to 2x32W

- Up to 70% energy reduction vs CFL downlights, reducing the energy bill. Further savings can be achieved via the DALI dimmable version in combination with remote presence/daylight sensors
- Ideal refurbishment solution with the same standard Chalice cut-out diameter (190 mm) plus accessories for easy replacement and reduced installation time
- TWIST versions - replaceable LED modules to allow for future upgrades benefitting from further energy savings.
- Tuneable white option (2700-6500K) to allow lighting adjustments to create atmosphere and ambience

Lamp Information

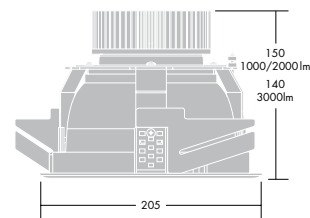
	Lumen package	W	LLm/W	Equivalent CFL	Saving potential	CCT	Lifetime @ L70	CRI	SDCM (McAdams)
Eco	1000	14.0	>70	1x18/26	<70%	3000/4000	50,000	>80	3
	2000	26.0	>70	2x18/26/1x32	<55%	3000/4000	50,000	>80	3
	3000	38.0	>70	2x32	<40%	3000/4000	50,000	>80	3
Twist	1100	15.0	>65	1x18/26	<40%	3000/4000	25,000	>80	5
	2000	28.0	>65	2x18/26	<45%	3000/4000	25,000	>80	5
Tuneable	800	15.0	>60	1x18/26	<40%	2700-6500	50,000	>90	4
	1800	27.0	>60	2x18/26	<45%	2700-6500	50,000	>90	4

Applications

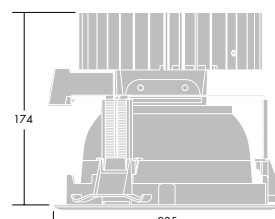
- Circulation and reception areas
- Offices/Education/Meeting Rooms
- General Illumination, for example libraries
- Corridors
- Restrooms



Overview



190
ECO version



190mm
Tuneable/Twist white

Standards



Lamps

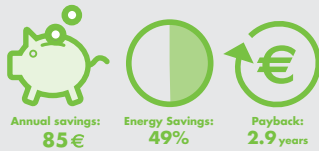


Electrical class 1 for Twist version

Energy efficiency

The example below compares the performance and running costs of a traditional CFL downlight and the new Chalice 190 LED ECO in a typical application.

Reception - 6m x 4m x 3m

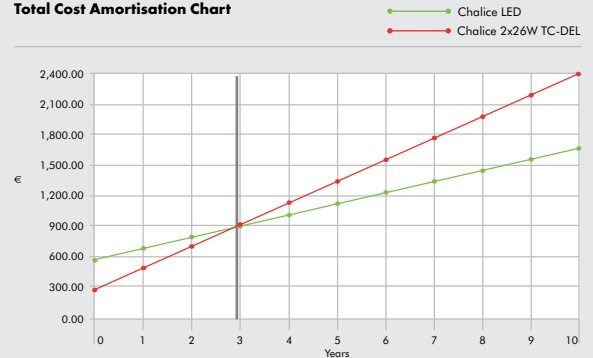


	No. Fittings	W	Lx level	W/m ²	energy saving %	avg cost saving/yr
Chalice 2x26W TC-DEL downlight	6	312	357	13	-	-
Chalice 190 LED ECO (2000lm)	6	160	315	6.68	49	85 EUR

Lifetime cost comparison

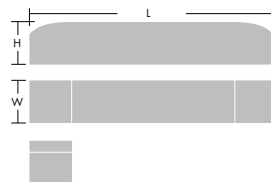
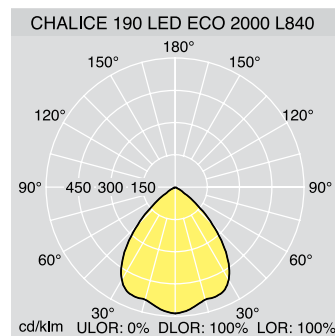


Total Cost Amortisation Chart



Assumptions: 5 day working week, working time: 7am-5:30pm. Total burning hours / year 2.750 h. New installation, investment for both product types considered, payback time: 2.9 years. **Based on 10 year project life time.**

Overview



Driver dimensions (cable length 560mm)

Driver	Length	Width	Height
ECO 1000	180	32	32
ECO 2000	141	43	30
ECO 3000	144	47.5	32

Materials/Finish

Body: polycarbonate, black
 Mounting clips: stainless steel; Tuneable/Twist - polycarbonate
 Bezel and frame: polycarbonate, white (RAL9016)
 Reflector: satinbrite polycarbonate
 Module support: white painted steel sheet
 Heat sink: aluminium, black

Installation/Mounting

Stainless steel wings/adjustable black clips for ceiling thicknesses of 5-40 mm. No tools required. Cut-out diameter 190 mm.

Specification

To specify state: Recessed LED downlight for mains connection using horizontal fixed/twist/tuneable LED modules with 800/1000/1100/2000/3000lm outputs, 25.000 (TWIST)/50.000h lifetime @ 70% lumen maintenance, passive cooled.
 Satinbrite polycarbonate reflector with choice of attachments.
 As Thorn Chalice 190 LED ECO.

Ordering Guide

Product supplied complete with LED module

Description	Wt (kg)	SAP Code 3000K	SAP Code 4000K
Chalice 190 LED			
CHALICE 190H LED ECO 1000 HF	1.5	96241516	96241517
CHALICE 190H LED ECO 2000 HF	2.1	96241520	96241521
CHALICE 190H LED ECO 3000 HF	2.3	96241526	96241527
CHALICE 190H LED ECO 1000 HFI-X	1.5	96241518	96241519
CHALICE 190H LED ECO 2000 HFI-X	2.1	96241522	96241524
CHALICE 190H LED ECO 3000 HFI-X	2.3	96241528	96241529
CHALICE 190H LED ECO 1000 HF E3	1.6	96241530	96241531
CHALICE 190H LED ECO 2000 HF E3	2.2	96241534	96241535
CHALICE 190H LED ECO 3000 HF E3	2.4	96241538	96241539
CHALICE 190H LED ECO 1000 HFI-X E3	1.6	96241532	96241533
CHALICE 190H LED ECO 2000 HFI-X E3	2.2	96241536	96241537
CHALICE 190H LED ECO 3000 HFI-X E3	2.4	96241540	96241541

Twist

CHALICE 190H LED 1100 TWIST DTE	1.6	96239736	96239737
CHALICE 190H LED 2000 TWIST DTE	2.2	96239738	96239739
CHALICE 190H LED 1100 TWIST DTE E3	1.6	96549012	96549013
CHALICE 190H LED 2000 TWIST DTE E3	2.2	96549014	96549015

Description	Wt (kg)	SAP Code 2700-6500 K
Tuneable		
CHALICE 190H LED 800 HFI CL2 L927-65	1.6	96241419
CHALICE 190H LED 1800 HFI CL2 L927-65	2.2	96241420

Accessories for Chalice 190 LED ECO/Twist/Tuneable

CHALICE 190 GLASS 20X4 FR RING	96002079
CHALICE 190 GLASS FR SPOT	96002080
CHALICE 190 GLASS IP44 CL	96002081
CHALICE 190 GLORIE WHI	96004302
CHALICE 190 GLASS IP44 GLORIE	96004304
CHALICE 190 GLASS FR	96004414
CHALICE 190 PC DISC CL	96009595
CHALICE 190 PC DISC OP	96009596
CHALICE 190H LED WALLWASHER	96241605

HF - electronic ballast, fixed output, HFI-X - digital dimmable and addressable ballast (DALI), E3 - 3-h-emergency module, manual test, DTE - electronic ballast, trailing edge dimmable
 FR - frosted glass, CL - clear glass, PC - polycarbonate,
 OP - opal cover (not compatible with E3 versions)