

136-198 20W 4000K specific configuration
Reflector downlight eco | black | Ø232mm | 20/28W | 3-CCT

Introduction

Purpose of this Document

This document provides information for 136-198 20W 4000K. During measurement, the product is used in a different mode where output power, colour temperature and/or beam angle are changed from factory standard. These adjustments can be made without altering the product and are designed to be set by the installer. In most cases, the options are set through switches on the product.

Results

Total input power	19.0 W
Correlated Colour Temperature	4386 K
Total lumen output	2078 lm
Efficiency	109 lm/W

Electrical measurement details

Input Power

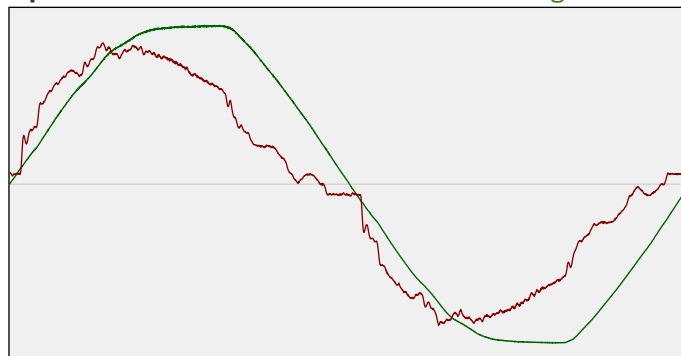
RMS Input voltage feed. V_{RMS}	232 V
RMS Input current feed. I_{RMS}	0.089 A
Total input power	19.0 W

Frequency of input power	50 Hz
Power factor	0.92
Displacement power factor	0.93

Total harmonic distortion of the current	15.42%
Total harmonic distortion of the voltage	2.94%

Input Power Curve

Voltage - Current



Efficiency

Radiated power efficiency: 34.9%



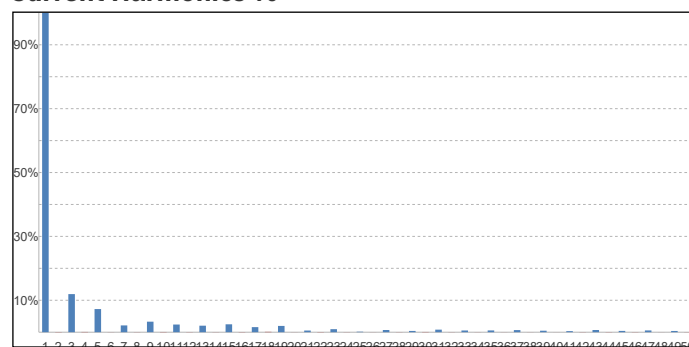
Lumen efficiency: 109 lm/W



Harmonics

3rd Harmonic	11.93%
5th Harmonic	7.25%
7th Harmonic	2.13%
9th Harmonic	3.3%
11th Harmonic	2.4%

Current Harmonics %



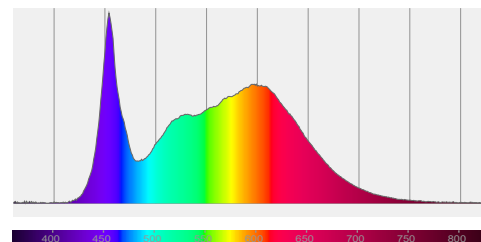
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Colour measurement details

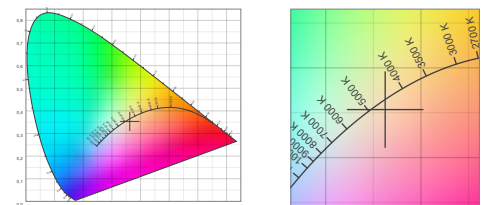
Total lumen output 2078 lm
 Correlated Colour Temperature 4386 K
 Colour coordinates CIE 1931 (x;y) = (0.362;0.353)
 Colour deviation from BBL Duv = -0.0056

TM30-18 Colour Fidelity Index R_f 85.2
 TM30-18 Colour Gamut Index R_g 97.1
 Colour Rendering Index (Ra) CRI 88.1
 Colour Rendering Index. (red component) $R_9 = 32.9$

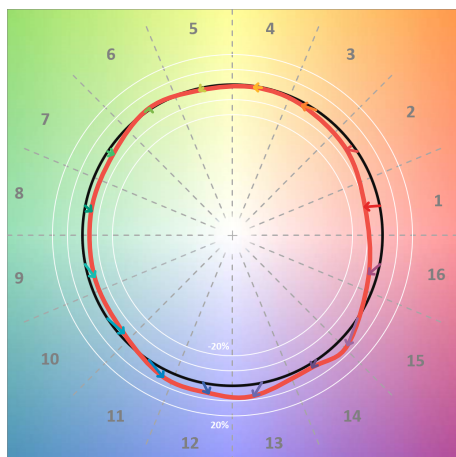
Colour Quality Scale CQS = 84.2
 Television Lighting Consistency Index TLCI = 77



Relative spectral power distribution



TM30 details

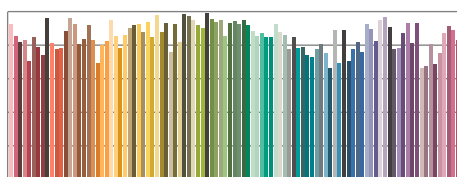


TM30 Colour vectors per hue bin

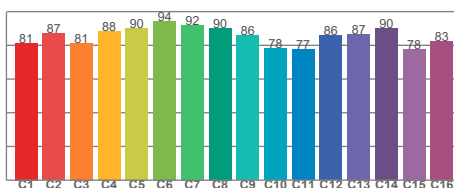


TM30 Colour distortion

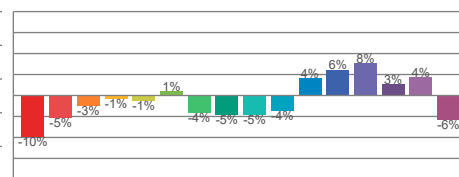
Hue Bin	R_f	Shifts (%)	
		Chroma	Hue
C1	81	-10%	1%
C2	87	-5%	5%
C3	81	-3%	9%
C4	88	-1%	5%
C5	90	-1%	3%
C6	94	1%	-1%
C7	92	-4%	-1%
C8	90	-5%	3%
C9	86	-5%	9%
C10	78	-4%	14%
C11	77	4%	14%
C12	86	6%	5%
C13	87	8%	-7%
C14	90	3%	-5%
C15	78	4%	-18%
C16	83	-6%	-8%



TM30-18 R_f -values per reference colour

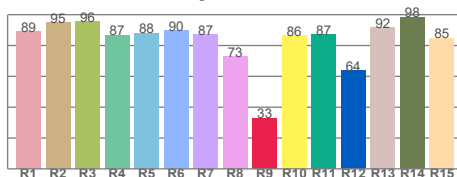


TM30-18 R_f -values per hue bin

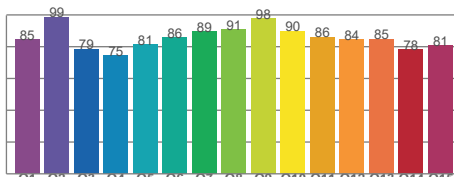


TM30 Chroma shift

Colour Quality details



Colour Rendering Index



Colour Quality Scale