PixBar 400 Short IP G2



PixBar 400 Short IP G2 (CLPB400SIPG2)

PHOTOMETRIC TEST REPORT

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Report Introduction

About this report

We measure total luminous flux with state-of-the-art equipment, such as an integrating sphere and a goniophotometer, based on a 6-Axis industry Robot. In this process we rely on our professional Cameo photometric laboratory or certified partners. Our measurements reflect the utilised flux emitted from the luminaire at all radiating angles considering the zoom range.
We process our measurement data in a specialized software to calculate all photometric data. This photometric report includes spectra, light distribution, TM30-15, TLCI, and many other standardised reports. Additionally, we provide photometric data in IES and LDT file format.

Measurement conditions

- Stabilised laboratory room temperature for absolute consistency
- Stabilised luminaires (max. +-0.5% flux for at least 15min)
- Goniophotometer resolution: gamma = 5° and C-level = 0.1°
- Distance > photometric limit distance (tolerance < 1.0%)
- Calibrated and accurate tools

Equipment

- Goniometer with 6-Axis Robogonio by Opsira including Spectral Radiometer Spec`3 and frc-f-I, a fast Class-L Photometer for flicker etc.
- Integrating sphere UKU800 by Opsira
- Spectral Radiometer Spec`3 by Opsira
- Luxmeter Gossen MavoLux 5032-C
- Handheld-Spectrometer Gossen MavoSpec M600A
- Handheld-Spectrometer UPR-Tec MK350S Premium

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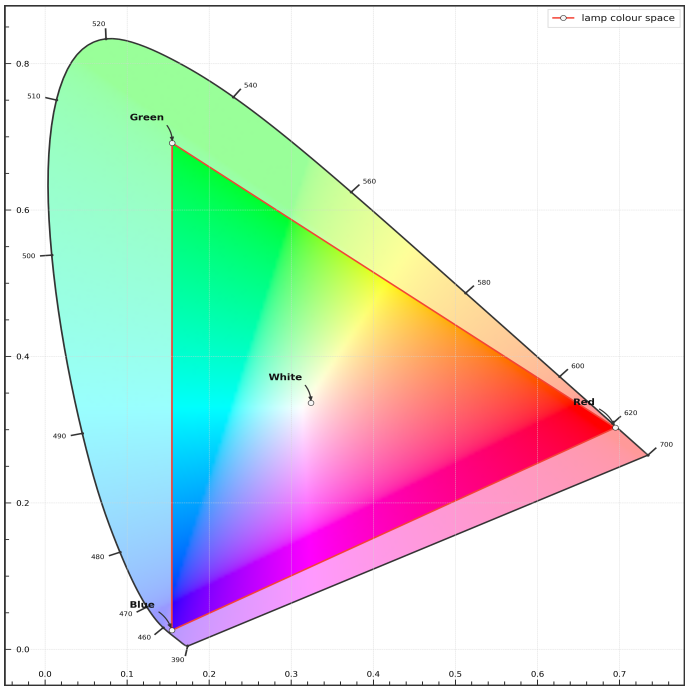
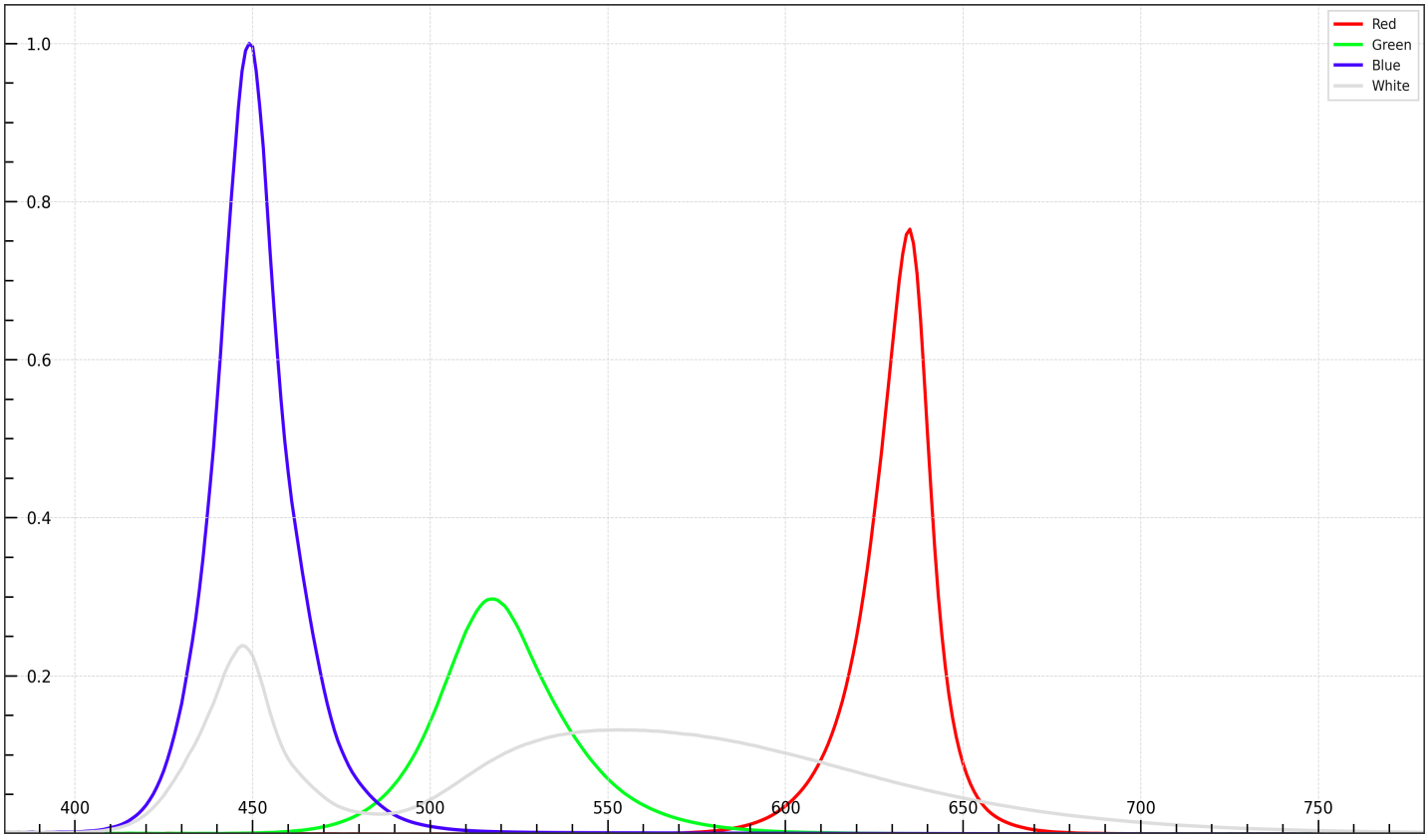
Overview

LED Colours	Lum flux [lm]	x	y
Red	795	0.6950	0.3028
Green	1400	0.1549	0.6915
Blue	230	0.1545	0.0261
White	1809	0.3240	0.3367

CIE 1931 Chromaticity Diagram - 2° Standard Observer



Spectral Distribution for Colours (Wavelength [nm] --> relative Intensity)



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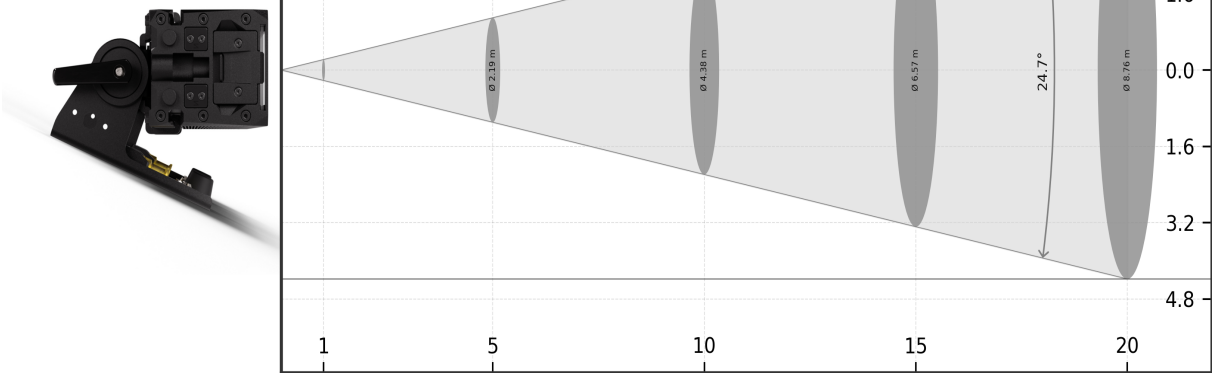
Full-On – Photometric Report

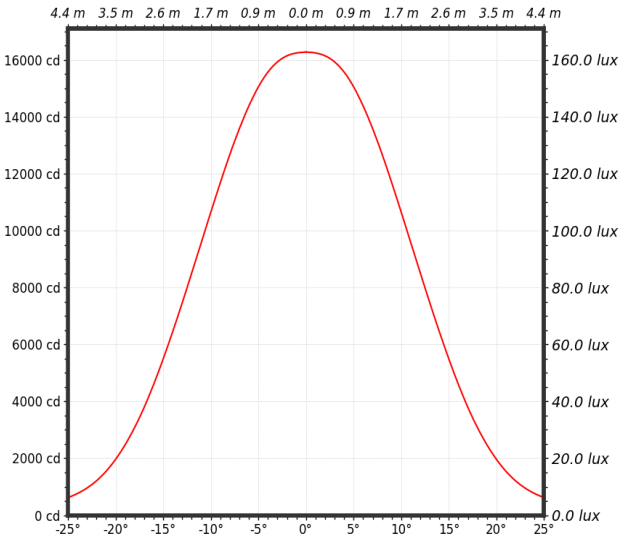
Beam Angle [°]	Field Angle [°]	Luminous flux [lm]	Power [W]	Luminous Efficacy [lm/W]
24.7	41.5	3300	80	41.3

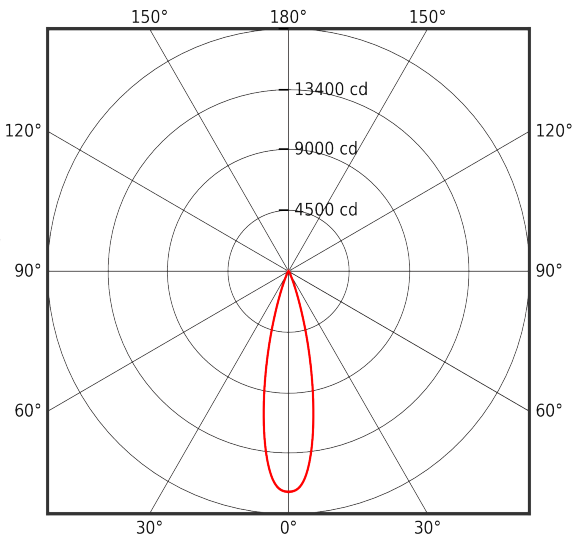
Distance-Diameter-Diagram (Distance [m] --> Beam Opening [m])



Distance [m]	1	5	10	15	20
Illuminance [lx]	16273	651	163	72	41
Diameter [m]	0.44	2.19	4.38	6.57	8.76

Light Distribution Diagrams / Illuminance





Fixture Settings: Full-On; No-Filter

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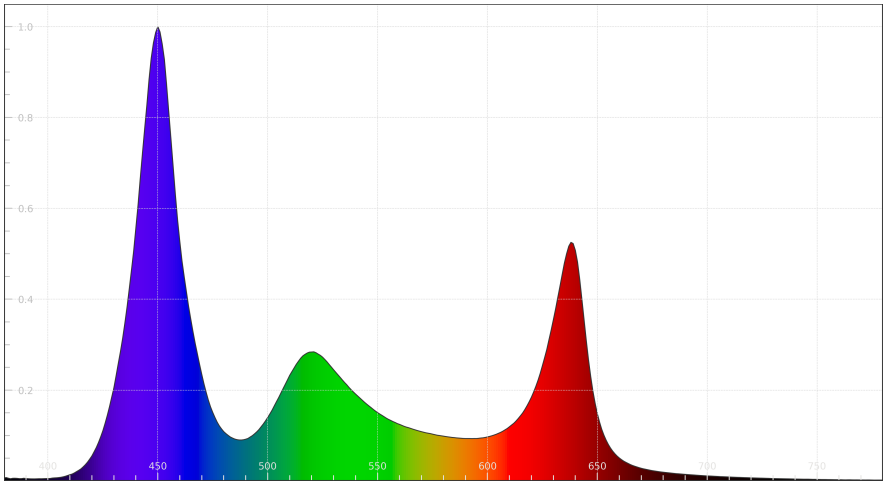
Full-On – Colorimetric Report

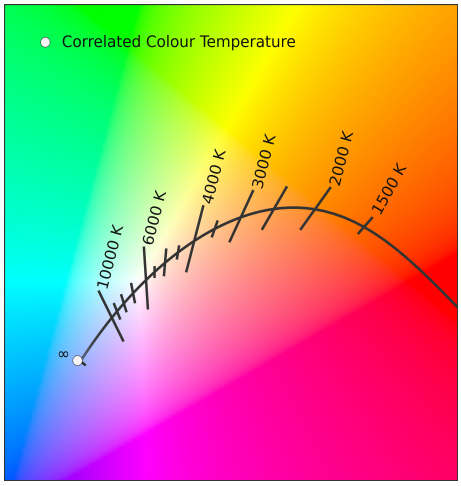
Colorimetric Characteristics

Correlated Colour Temperature [K]	**CCT**	139854	Luminous Flux [lm]	**Lum Flux**	3300
Colour Deviation from Black	**D_{uv}**	-0.0278	Colour Rendering Index	**CRI Ra**	56
Colour Coordinate CIE 1931	**x**	0.2600	Red Component	**CRI R9**	-174
Colour Coordinate CIE 1931	**y**	0.2139	Colour Fidelity	**TM30 R_f**	67
Colour Coordinate CIE 1976	**u'**	0.2061	Colour Gamut	**TM30 R_g**	125
Colour Coordinate CIE 1976	**v'**	0.3814	Television Lighting Consistency Index	**TLCI**	48
Spectral Similarity Index	**SSI[CIE D139854]**	32			

CIE 1931 2° Standard Observer (Wavelength [nm] --> relative Spectral Distribution)

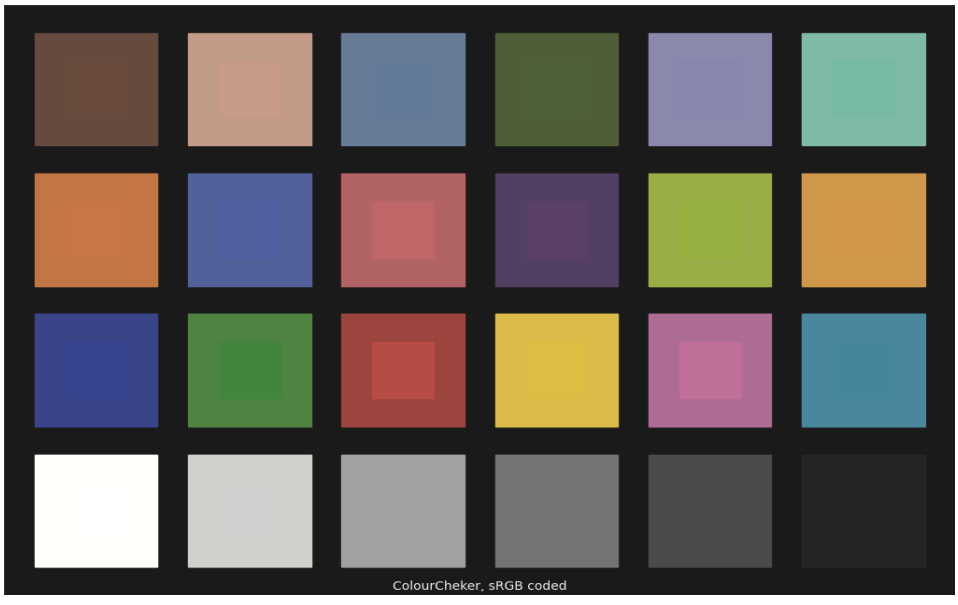


Colour Temperature

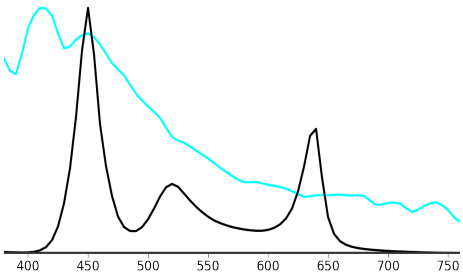


Television Lighting Consistency Index-2012

CCT = D139854 (-5.2) TLCI-2012 : 48 (D139854)



Sector	Lightness	Chroma	Hue
R	-------	----	0
R/Y	-	-	+
Y	0	-	0
Y/G	0	--	--
G	0	---	--
G/C	+	---	+
C	0	--	0
C/B	0	-	0
B	0	--	-
B/M	0	-	--
M	-	-	---
M/R	------	---	----



Fixture Settings: Full-On; No-Filter

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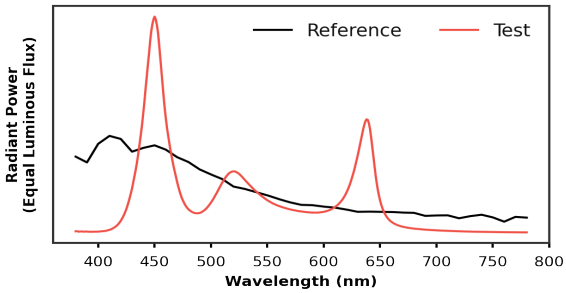
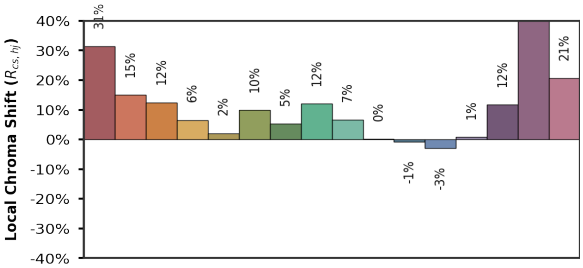
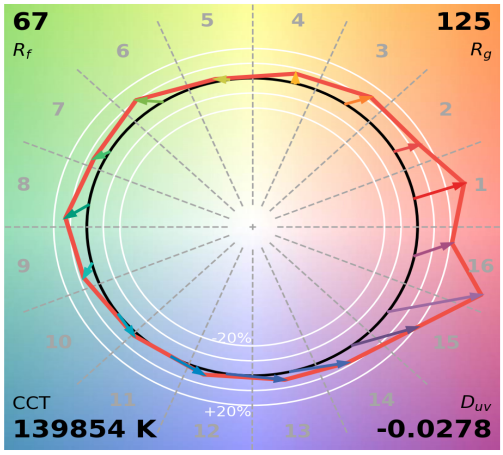
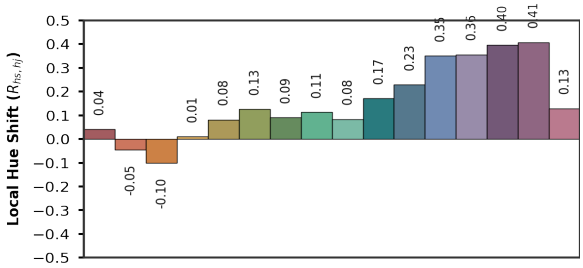
Full-On – Colorimetric Report

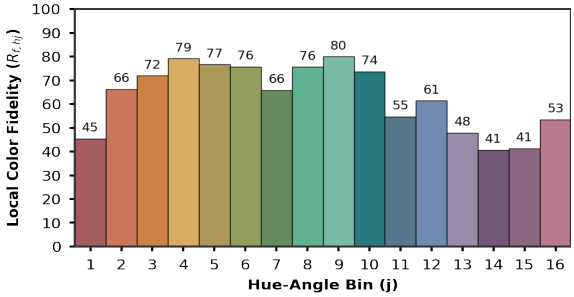
IES TM-30-18 Colour Rendition Report

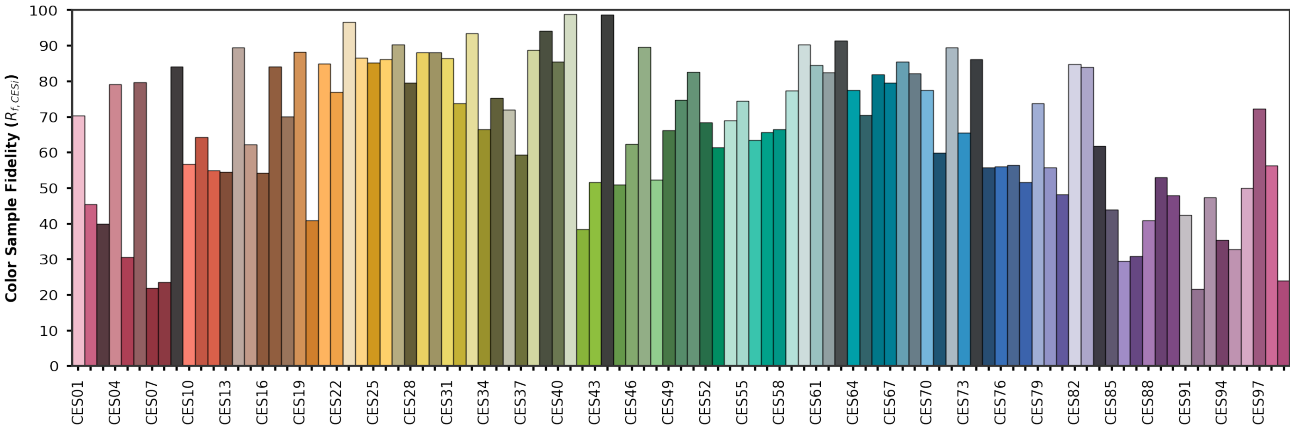












x	0.2600
y	0.2139
u'	0.2061
v'	0.3814

CIE 13.31-1995 (CRI)
R_a **56**
R_9 **-174**

Fixture Settings: Full-On; No-Filter

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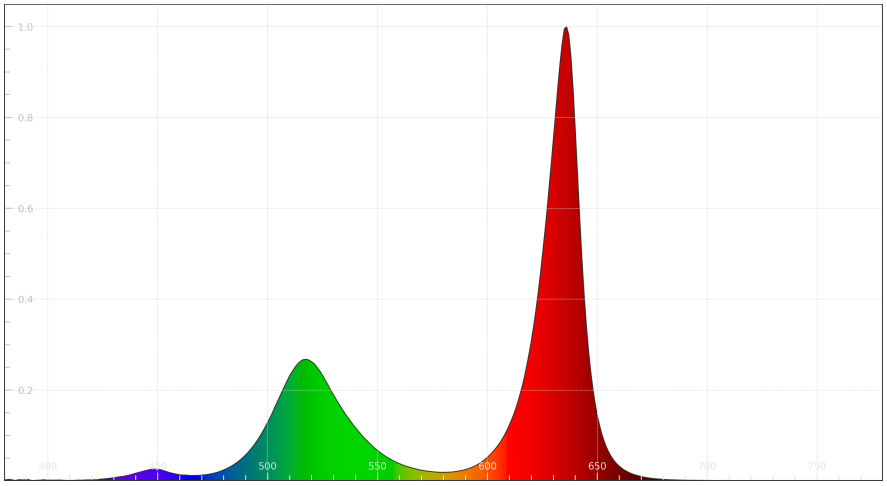
2700K – Colorimetric Report

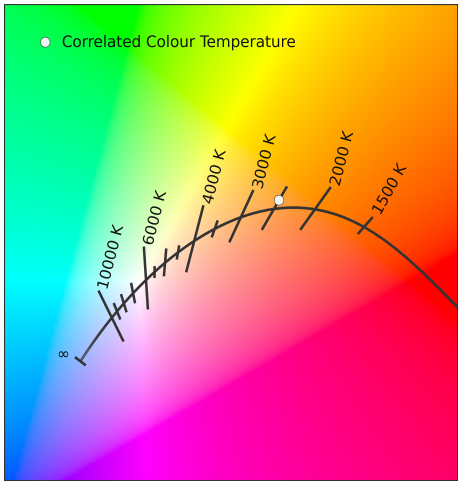
Colorimetric Characteristics

Correlated Colour Temperature [K]	**CCT**	2501	Luminous Flux [lm]	**Lum Flux**	2150
Colour Deviation from Black	**D_{uv}**	0.0044	Colour Rendering Index	**CRI Ra**	14
Colour Coordinate CIE 1931	**x**	0.4855	Red Component	**CRI R9**	-137
Colour Coordinate CIE 1931	**y**	0.4279	Colour Fidelity	**TM30 R_f**	41
Colour Coordinate CIE 1976	**u'**	0.2711	Colour Gamut	**TM30 R_g**	95
Colour Coordinate CIE 1976	**v'**	0.5376	Television Lighting Consistency Index	**TLCI**	1
Spectral Similarity Index	**SSI[P2501]**	26			

CIE 1931 2° Standard Observer (Wavelength [nm] --> relative Spectral Distribution)

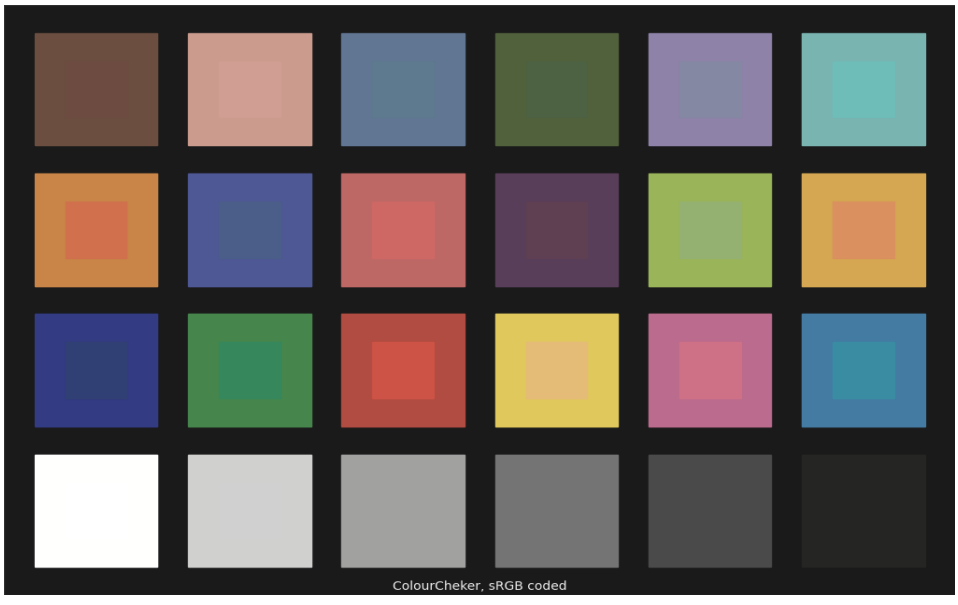


Colour Temperature

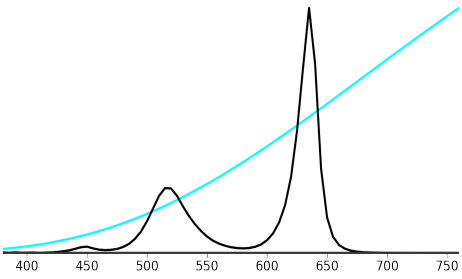


Television Lighting Consistency Index-2012

CCT = P2501 (0.8) TLCI-2012 : 1 (P2501)



Sector	Lightness	Chroma	Hue
R	-----	--	0
R/Y	+++++++	0	23*+
Y	+++	9*+	93*-
Y/G	+	+++++++	--------
G	0	++	-----
G/C	0	++	--------
C	------	--	12*+
C/B	-	+++	47*-
B	0	+++++++	9*+
B/M	0	++++++	++++
M	0	++++	-
M/R	-	++	------



Fixture Settings: CCT-2700K; No-Filter

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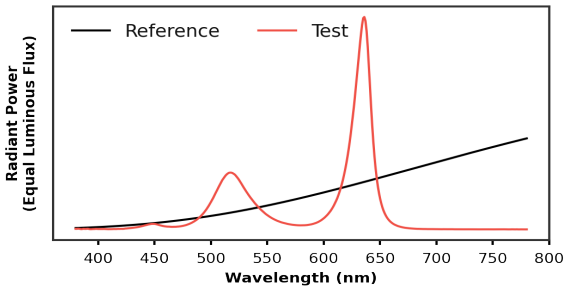
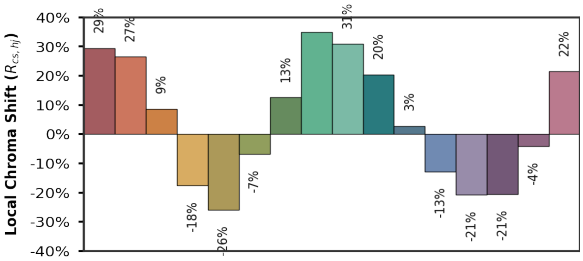
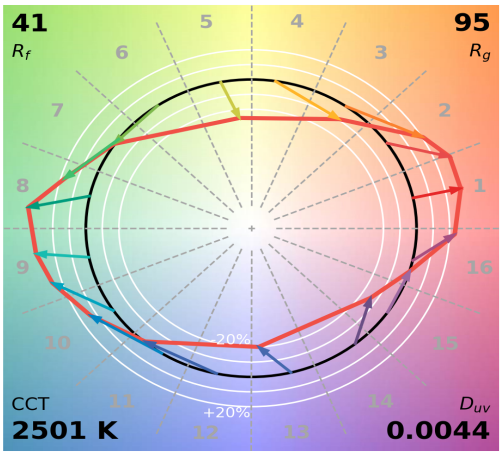
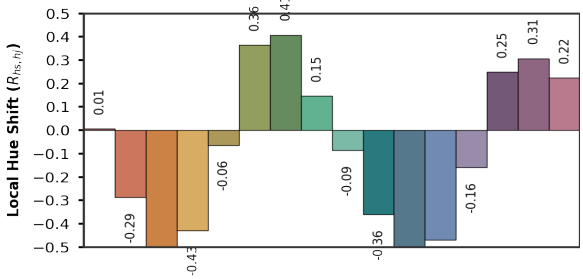
2700K – Colorimetric Report

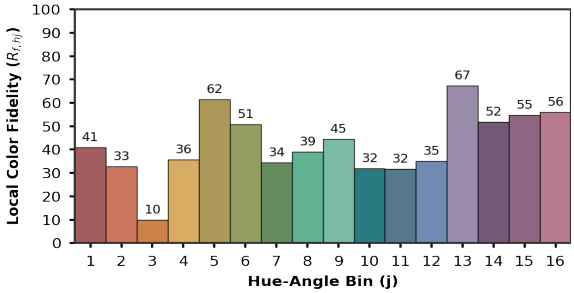
IES TM-30-18 Colour Rendition Report

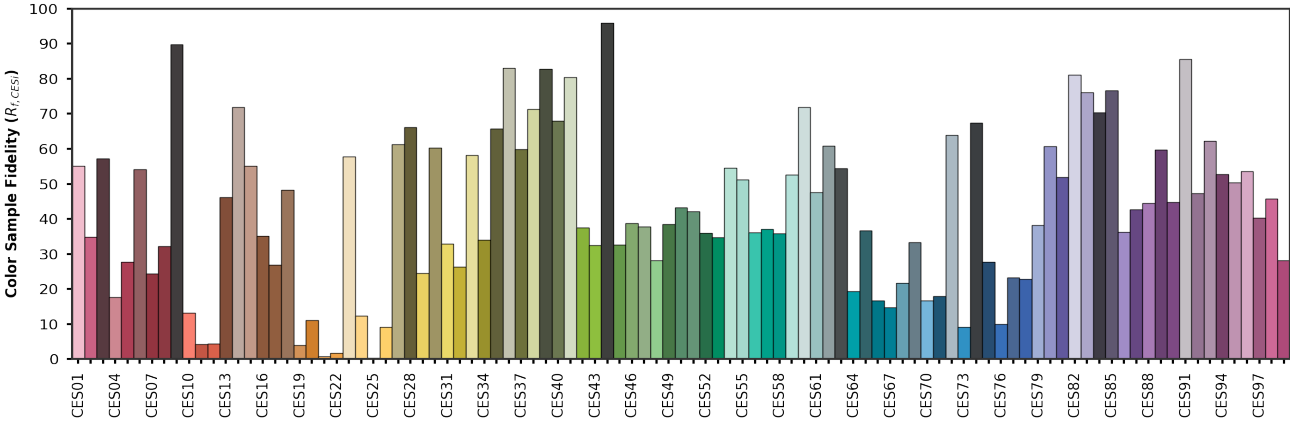












x	0.4855
y	0.4279
u'	0.2711
v'	0.5376

CIE 13.31-1995
(CRI)
R_a **14**
R_9 **-137**

Fixture Settings: CCT-2700K; No-Filter

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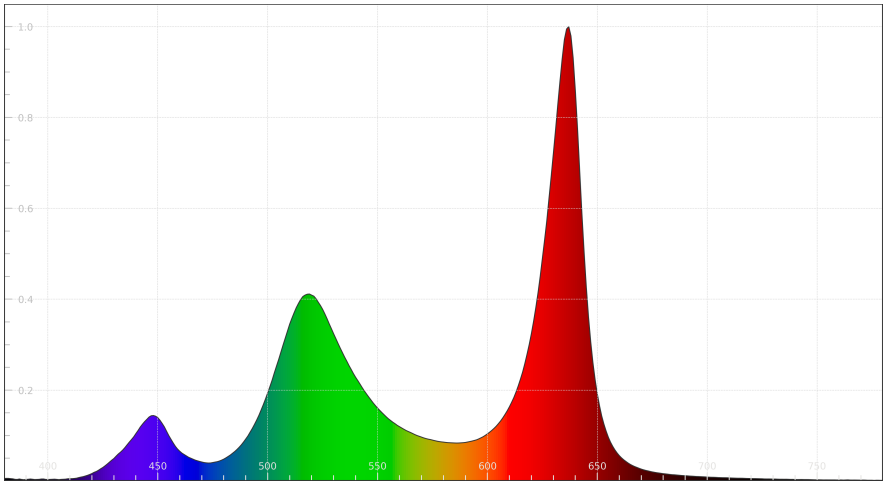
3200K – Colorimetric Report

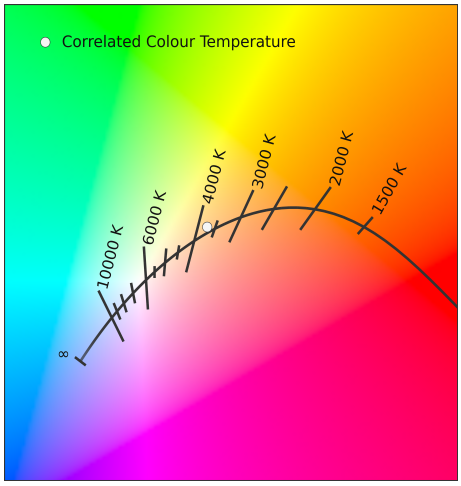
Colorimetric Characteristics

Correlated Colour Temperature [K]	**CCT**	3727	Luminous Flux [lm]	**Lum Flux**	2630
Colour Deviation from Black	**D_{uv}**	0.0128	Colour Rendering Index	**CRI Ra**	50
Colour Coordinate CIE 1931	**x**	0.4052	Red Component	**CRI R9**	-99
Colour Coordinate CIE 1931	**y**	0.4209	Colour Fidelity	**TM30 R_f**	67
Colour Coordinate CIE 1976	**u'**	0.2238	Colour Gamut	**TM30 R_g**	112
Colour Coordinate CIE 1976	**v'**	0.5232	Television Lighting Consistency Index	**TLCI**	1
Spectral Similarity Index	**SSI[P3727]**	38			

CIE 1931 2° Standard Observer (Wavelength [nm] --> relative Spectral Distribution)

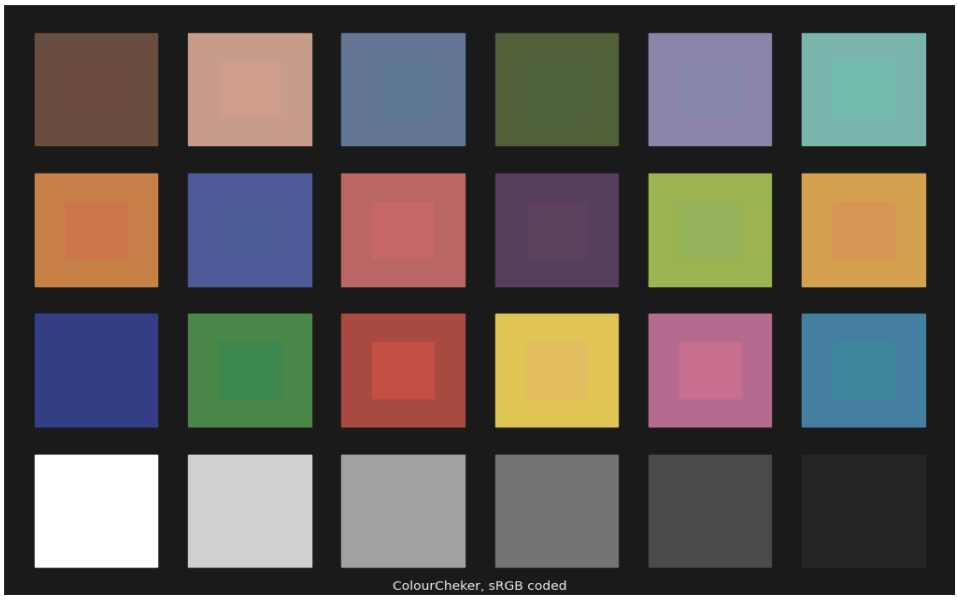


Colour Temperature

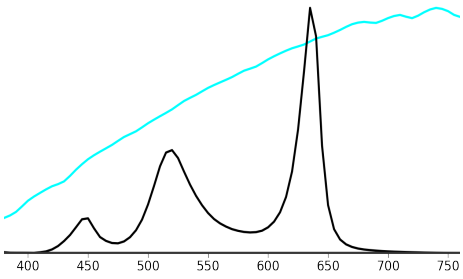


Television Lighting Consistency Index-2012

CCT = M3727 (2.4) TLCI-2012 : 1 (M3727)



Sector	Lightness	Chroma	Hue
R	-------	----	0
R/Y	+	0	+++++++
Y	+	+++	101*-
Y/G	0	+	----
G	0	0	----
G/C	0	0	----
C	---	--	9*+
C/B	0	+	51*-
B	0	++	+++
B/M	0	+	0
M	-	0	---
M/R	------	--	-----



Fixture Settings: CCT-3200K; No-Filter

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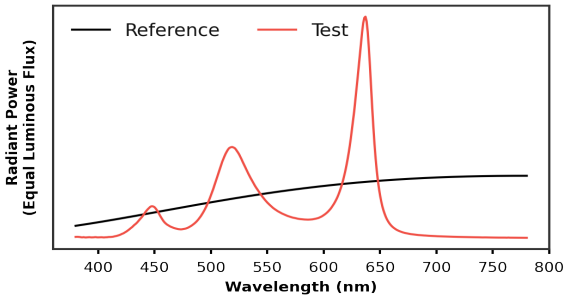
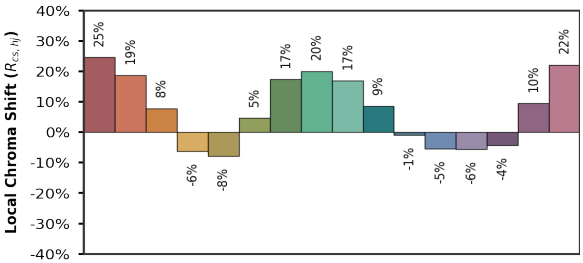
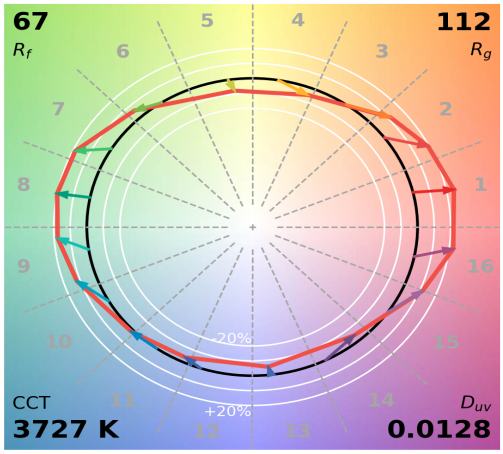
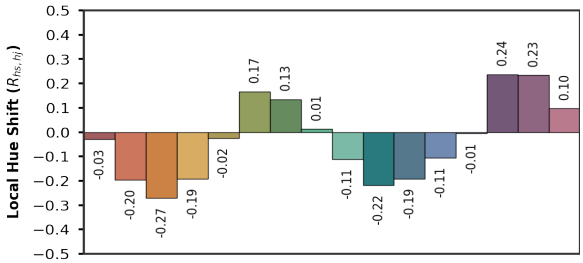
3200K – Colorimetric Report

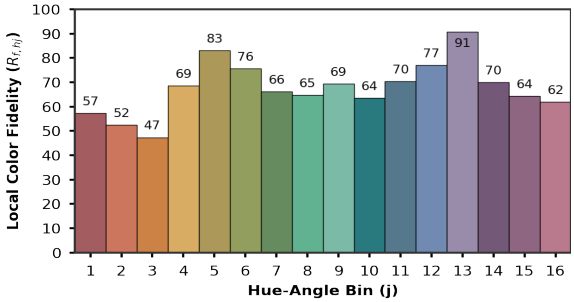
IES TM-30-18 Colour Rendition Report

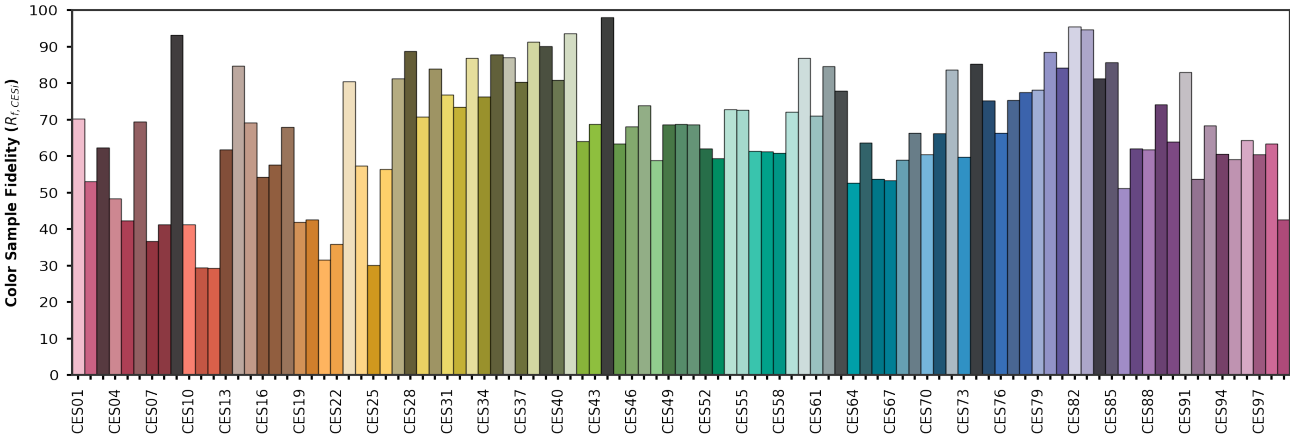












x	0.4052
y	0.4209
u'	0.2238
v'	0.5232

CIE 13.31-1995
(CRI)
R_a **50**
R_9 **-99**

Fixture Settings: CCT-3200K; No-Filter

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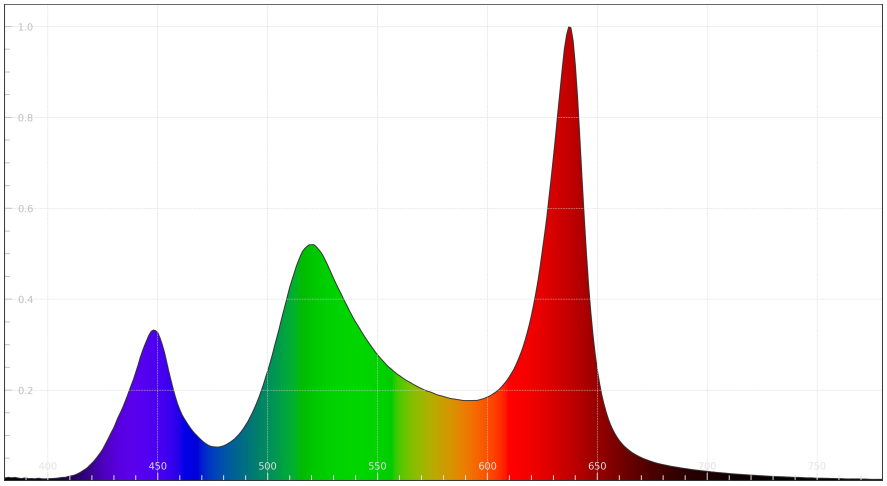
4000K – Colorimetric Report

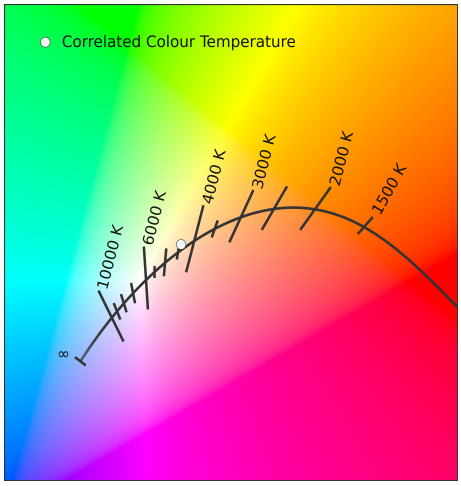
Colorimetric Characteristics

Correlated Colour Temperature [K]	**CCT**	4439	Luminous Flux [lm]	**Lum Flux**	3150
Colour Deviation from Black	**D_{uv}**	0.0127	Colour Rendering Index	**CRI Ra**	73
Colour Coordinate CIE 1931	**x**	0.3689	Red Component	**CRI R9**	-25
Colour Coordinate CIE 1931	**y**	0.3969	Colour Fidelity	**TM30 R_f**	82
Colour Coordinate CIE 1976	**u'**	0.2101	Colour Gamut	**TM30 R_g**	112
Colour Coordinate CIE 1976	**v'**	0.5085	Television Lighting Consistency Index	**TLCI**	3
Spectral Similarity Index	**SSI[P4439]**	51			

CIE 1931 2° Standard Observer (Wavelength [nm] --> relative Spectral Distribution)



Colour Temperature

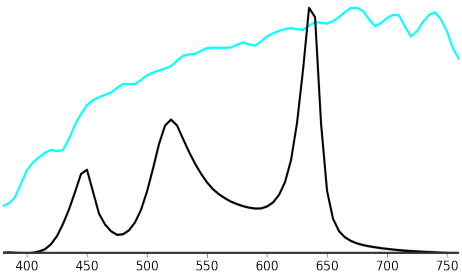


Television Lighting Consistency Index-2012

CCT = M4439 (2.4) TLCI-2012 : 3 (M4439)



Sector	Lightness	Chroma	Hue
R	----	--	0
R/Y	0	0	+++
Y	0	+	++
Y/G	0	0	--
G	0	-	-
G/C	0	--	+
C	0	----	+++
C/B	-	0	21*-
B	0	0	+
B/M	0	0	0
M	-	-	-
M/R	----	--	--



Fixture Settings: CCT-4000K; No-Filter

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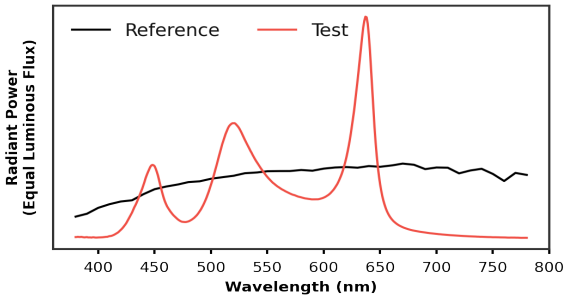
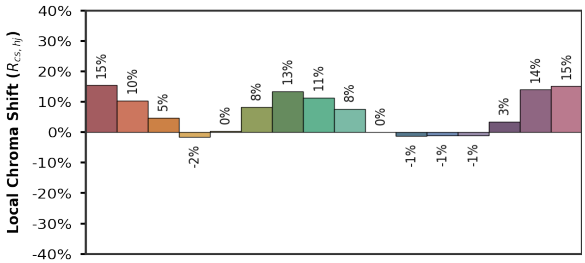
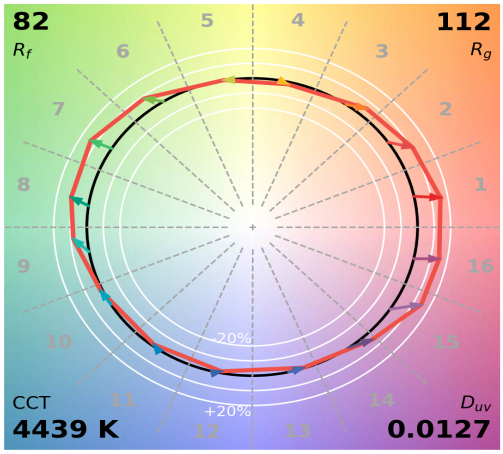
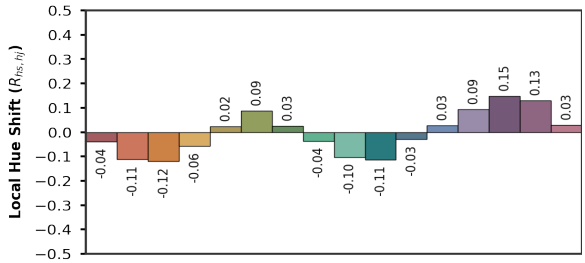
4000K – Colorimetric Report

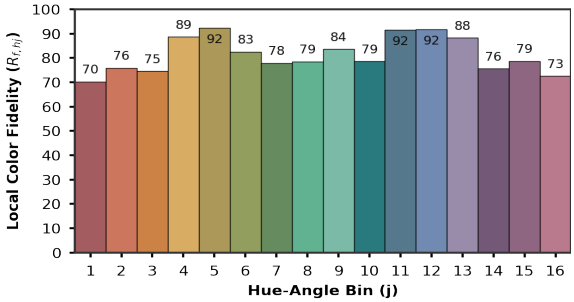
IES TM-30-18 Colour Rendition Report

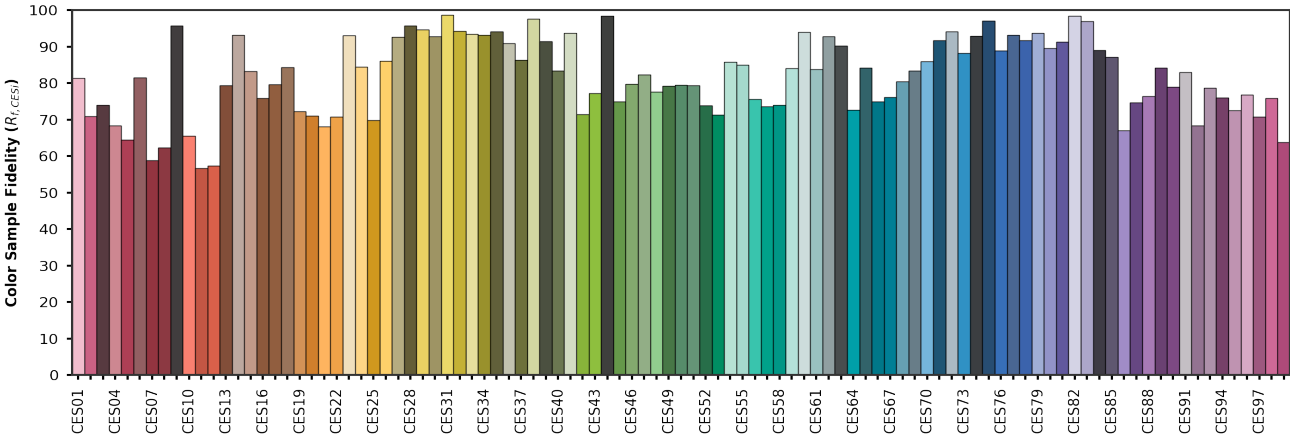












x	0.3689
y	0.3969
u'	0.2101
v'	0.5085

CIE 13.31-1995 (CRI)
R_a **73**
R_9 **-25**

Fixture Settings: CCT-4000K; No-Filter

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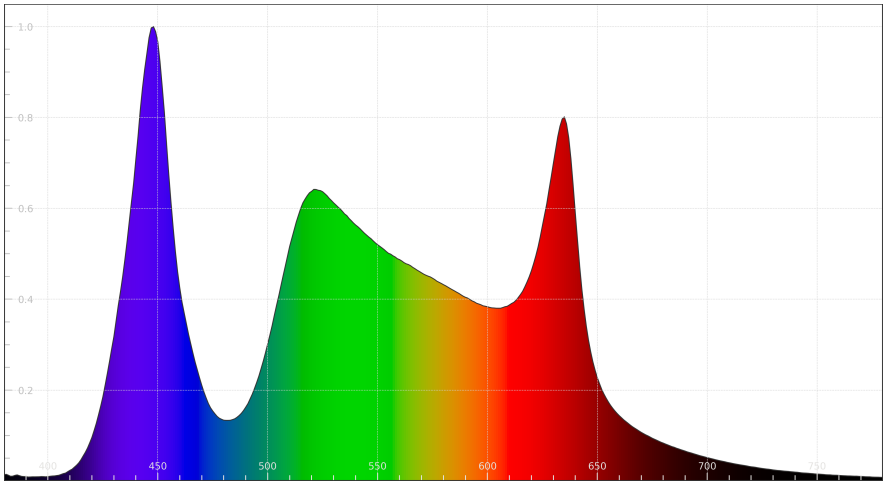
5600K – Colorimetric Report

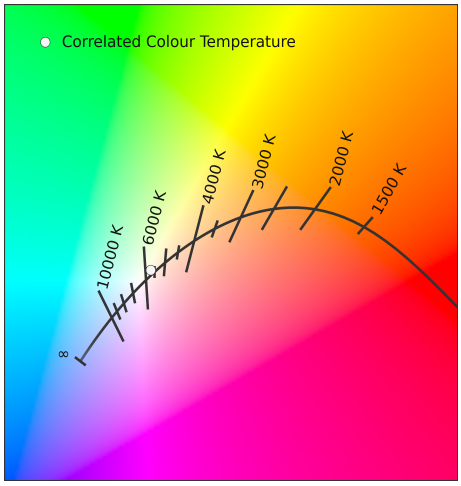
Colorimetric Characteristics

Correlated Colour Temperature [K]	**CCT**	5705	Luminous Flux [lm]	**Lum Flux**	2400
Colour Deviation from Black	**D_{uv}**	0.0033	Colour Rendering Index	**CRI Ra**	86
Colour Coordinate CIE 1931	**x**	0.3278	Red Component	**CRI R9**	97
Colour Coordinate CIE 1931	**y**	0.3434	Colour Fidelity	**TM30 R_f**	85
Colour Coordinate CIE 1976	**u'**	0.2028	Colour Gamut	**TM30 R_g**	107
Colour Coordinate CIE 1976	**v'**	0.4780	Television Lighting Consistency Index	**TLCI**	83
Spectral Similarity Index	**SSI[CIE D5705]**	63			

CIE 1931 2° Standard Observer (Wavelength [nm] --> relative Spectral Distribution)



Colour Temperature

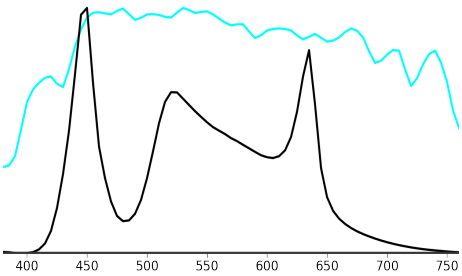


Television Lighting Consistency Index-2012

CCT = D5705 (0.6) TLCI-2012 : 83 (D5705)



Sector	Lightness	Chroma	Hue
R	0	0	0
R/Y	0	0	-
Y	0	0	-
Y/G	0	--	0
G	-	--	+
G/C	0	--	++++
C	0	0	+++
C/B	+	+	++
B	0	--	-
B/M	0	--	++
M	0	-	++
M/R	0	-	++



Fixture Settings: CCT-5600K; No-Filter

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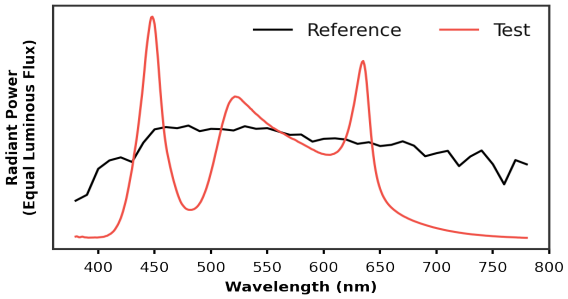
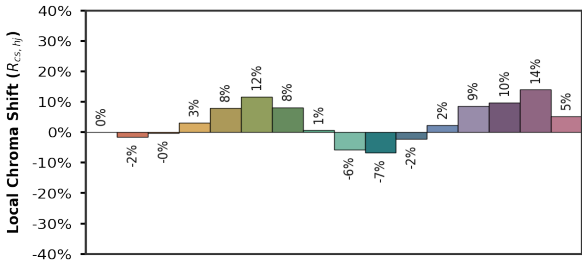
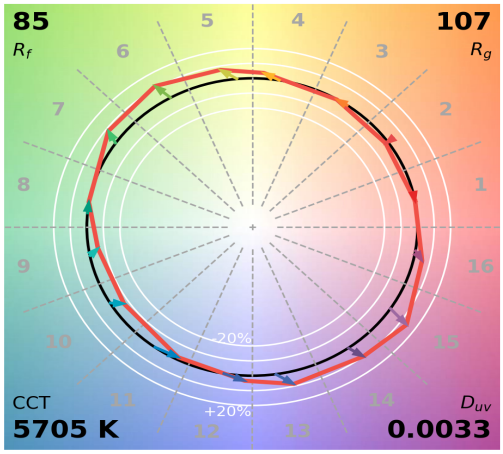
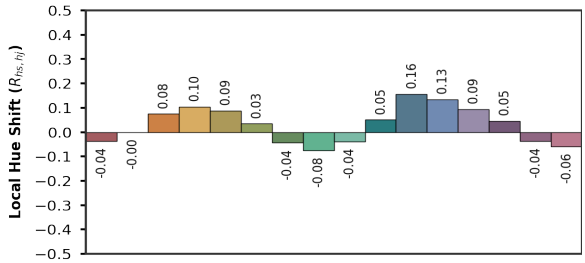
5600K – Colorimetric Report

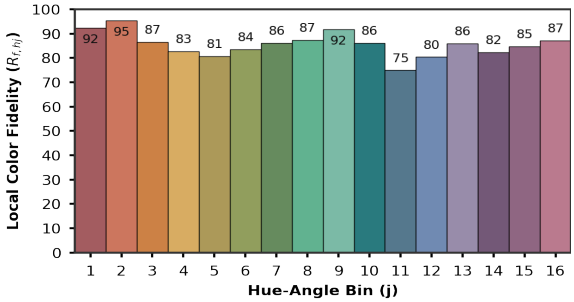
IES TM-30-18 Colour Rendition Report

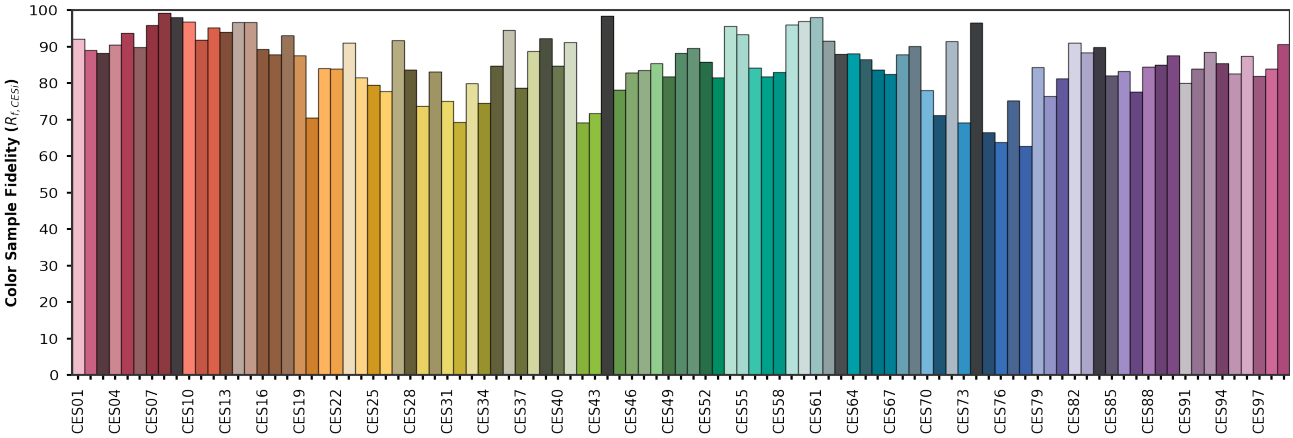












x	**0.3278**
y	**0.3434**
u′	**0.2028**
v′	**0.4780**

CIE 13.31-1995
(CRI)
R_a **86**
R_9 **97**

Fixture Settings: CCT-5600K; No-Filter

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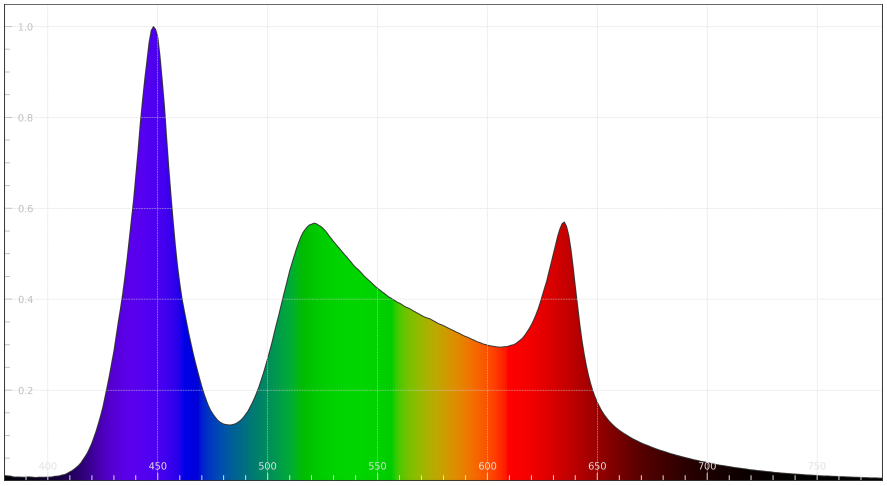
6500K – Colorimetric Report

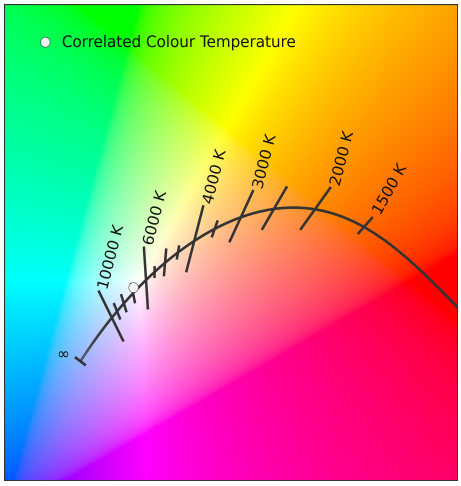
Colorimetric Characteristics

Correlated Colour Temperature [K]	**CCT**	6888	Luminous Flux [lm]	**Lum Flux**	2450
Colour Deviation from Black	**D_{uv}**	0.0041	Colour Rendering Index	**CRI Ra**	86
Colour Coordinate CIE 1931	**x**	0.3066	Red Component	**CRI R9**	97
Colour Coordinate CIE 1931	**y**	0.3247	Colour Fidelity	**TM30 R_f**	85
Colour Coordinate CIE 1976	**u'**	0.1952	Colour Gamut	**TM30 R_g**	106
Colour Coordinate CIE 1976	**v'**	0.4651	Television Lighting Consistency Index	**TLCI**	85
Spectral Similarity Index	**SSI[CIE D6888]**	60			

CIE 1931 2° Standard Observer (Wavelength [nm] --> relative Spectral Distribution)



Colour Temperature

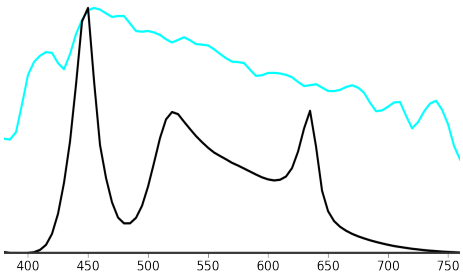


Television Lighting Consistency Index-2012

CCT = D6888 (0.8) TLCI-2012 : 85 (D6888)



Sector	Lightness	Chroma	Hue
R	0	0	0
R/Y	0	0	-
Y	0	0	-
Y/G	0	-	0
G	-	--	+
G/C	0	-	+++
C	0	0	++
C/B	0	0	++
B	0	--	-
B/M	0	--	++
M	0	-	++
M/R	0	-	++



Fixture Settings: CCT-6500K; No-Filter

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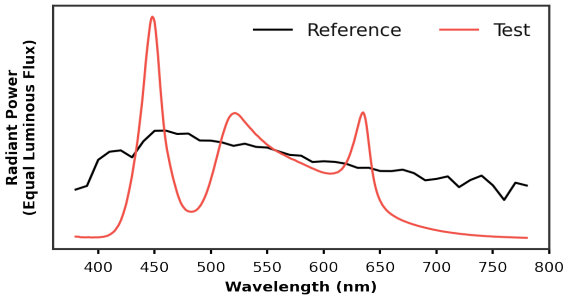
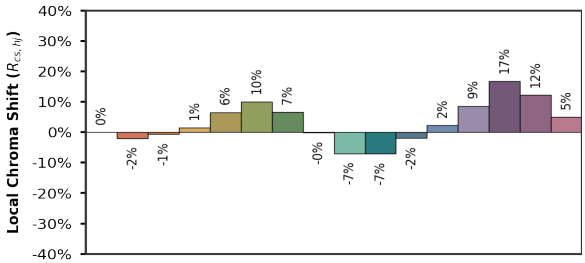
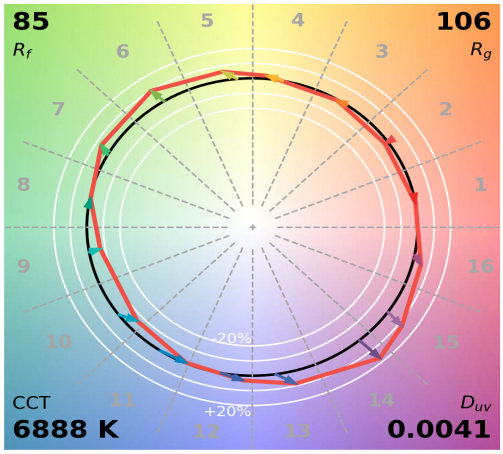
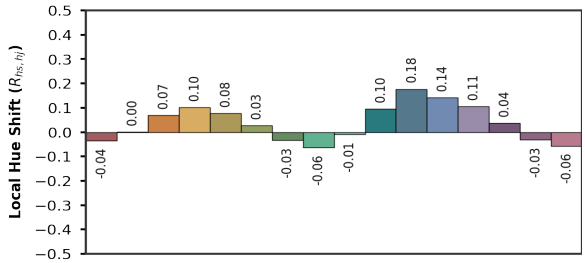
6500K – Colorimetric Report

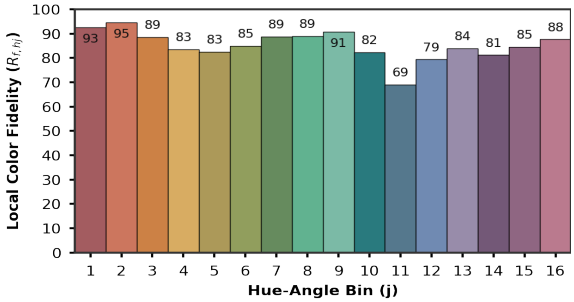
IES TM-30-18 Colour Rendition Report

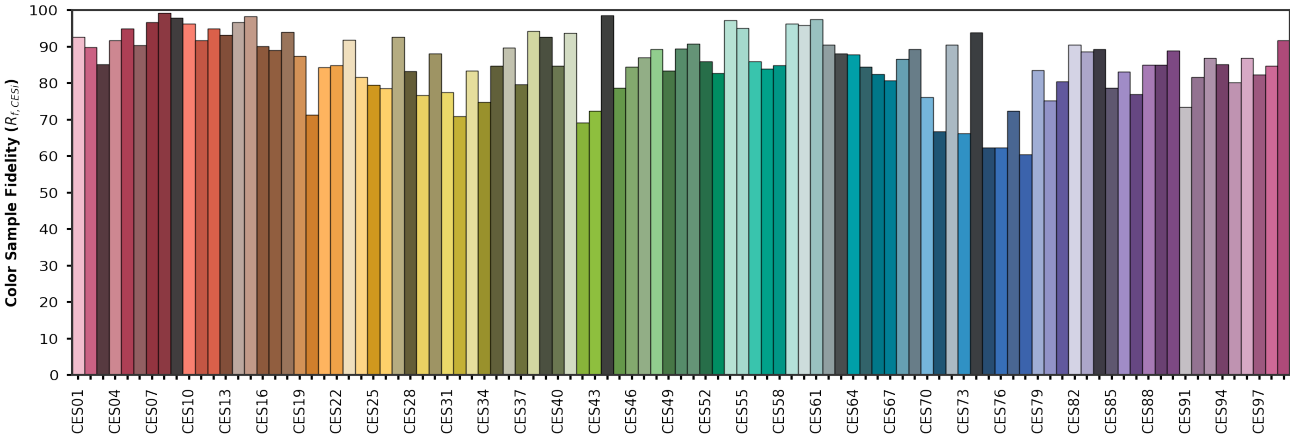












x	0.3066
y	0.3247
u'	0.1952
v'	0.4651

CIE 13.31-1995
(CRI)
R_a **86**
R_9 **97**

Fixture Settings: CCT-6500K; No-Filter

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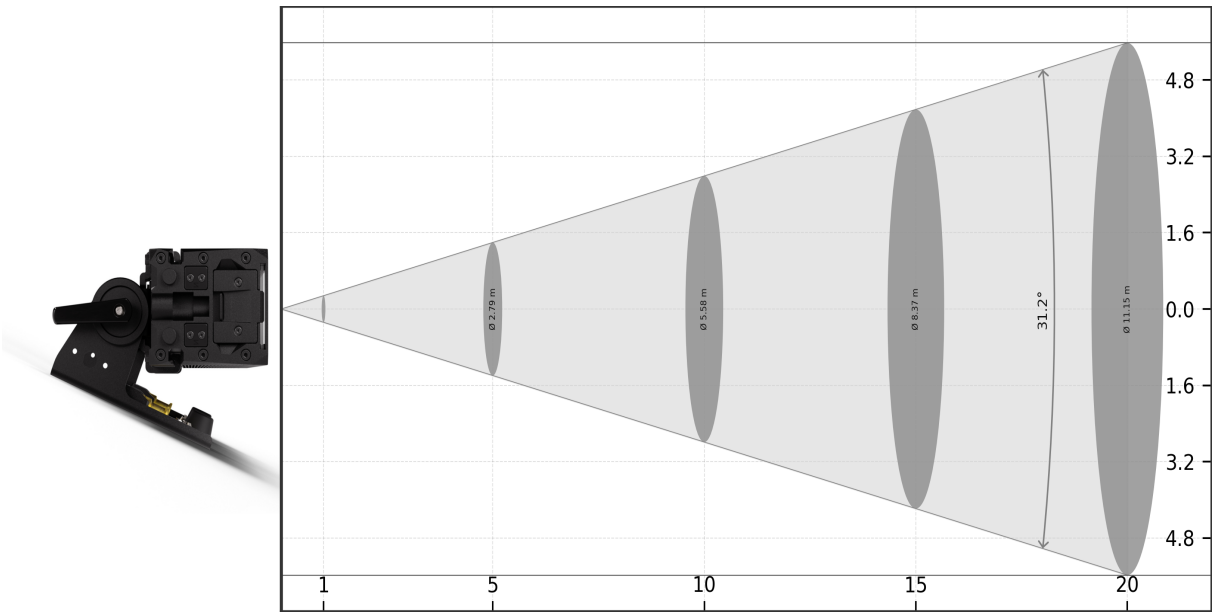
Standard-Filter – Photometric Report

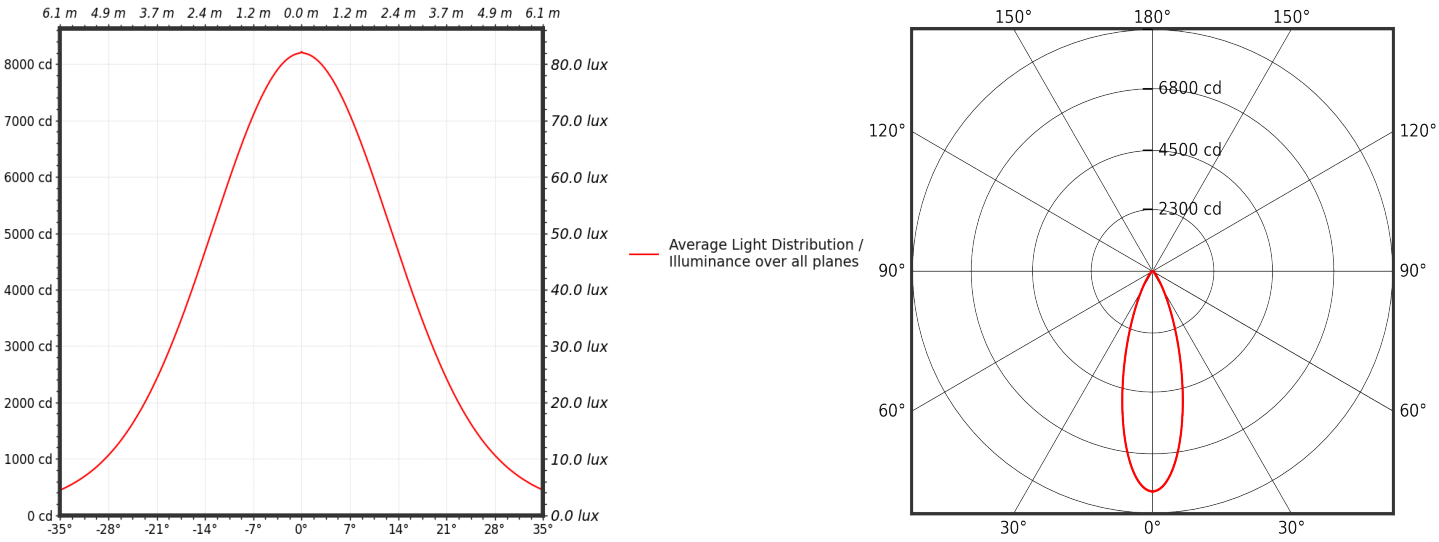
Beam Angle [°]	Field Angle [°]	Luminous flux [lm]	Power [W]	Luminous Efficacy [lm/W]
31.2	60.1	3080	80	38.6

Distance-Diameter-Diagram (Distance [m] --> Beam Opening [m])



Distance [m]	1	5	10	15	20
Illuminance [lx]	8215	329	82	37	21
Diameter [m]	0.56	2.79	5.58	8.37	11.15

Light Distribution Diagrams / Illuminance



Fixture Settings: Full-On; Standard-Filter

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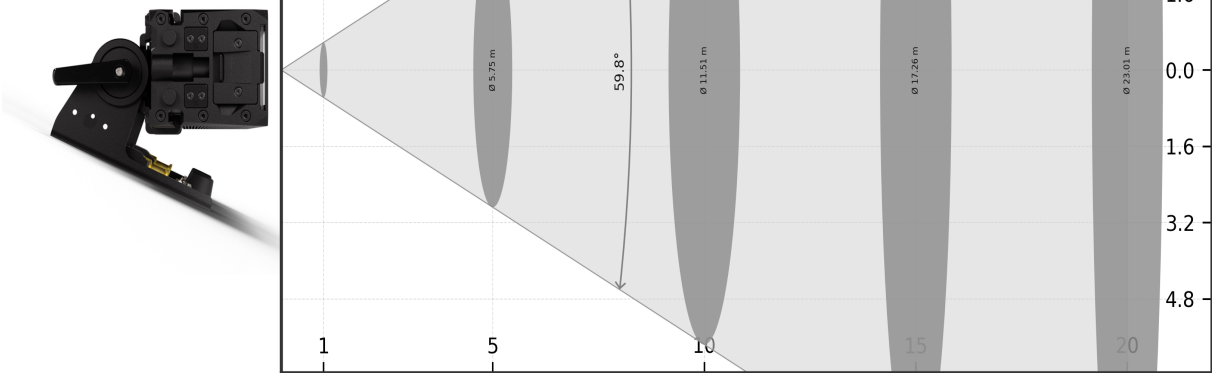
55°-Filter – Photometric Report

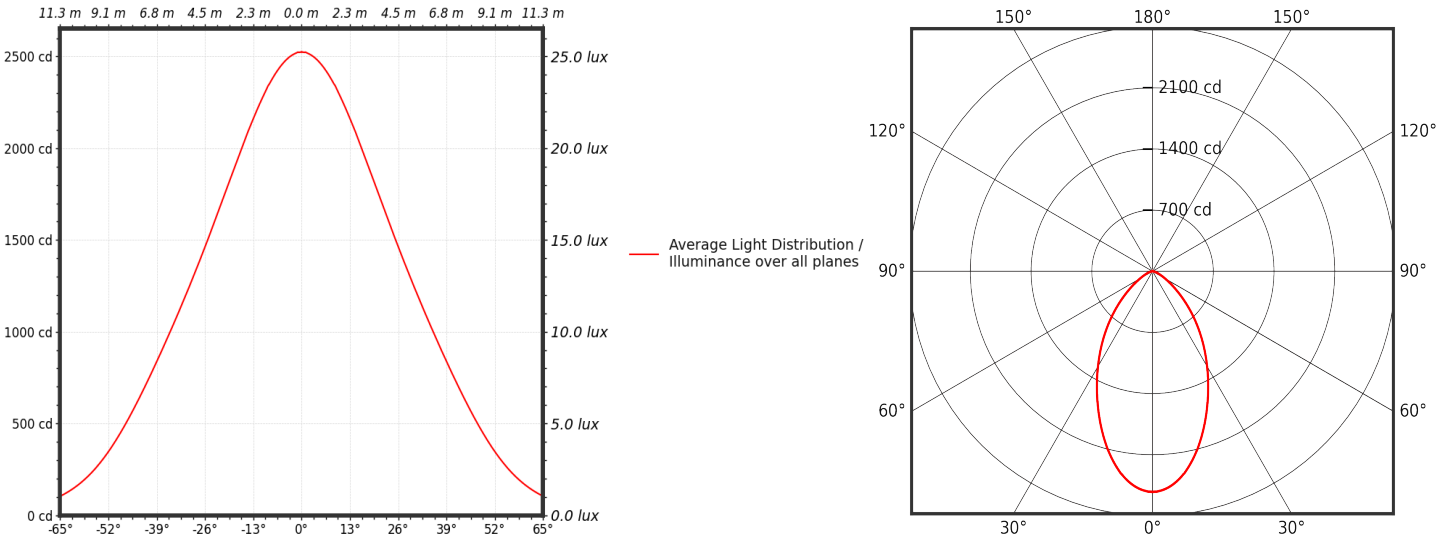
Beam Angle [°]	Field Angle [°]	Luminous flux [lm]	Power [W]	Luminous Efficacy [lm/W]
59.8	111.2	3000	80	37.6

Distance-Diameter-Diagram (Distance [m] --> Beam Opening [m])



Distance [m]	1	5	10	15	20
Illuminance [lx]	2525	101	25	11	6
Diameter [m]	1.15	5.75	11.51	17.26	23.01

Light Distribution Diagrams / Illuminance



Fixture Settings: Full-On; 55°-Filter

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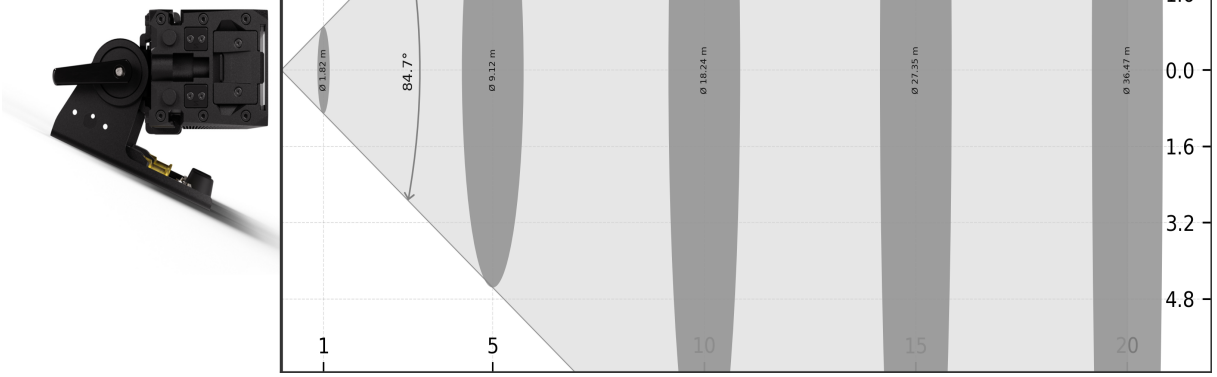
70°-Filter – Photometric Report

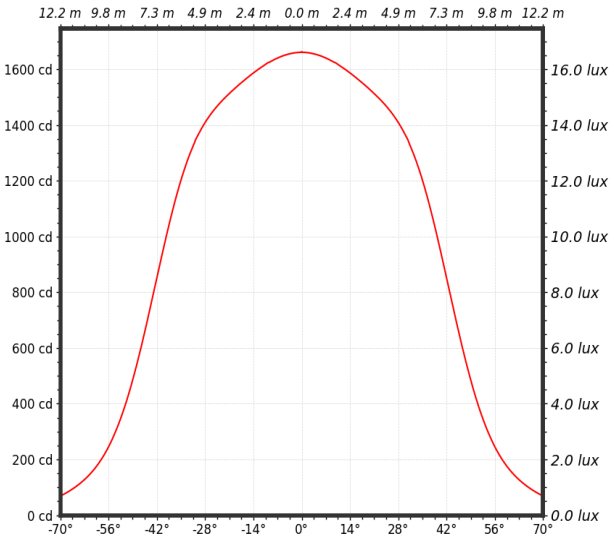
Beam Angle [°]	Field Angle [°]	Luminous flux [lm]	Power [W]	Luminous Efficacy [lm/W]
84.7	120.1	3000	80	37.6

Distance-Diameter-Diagram (Distance [m] --> Beam Opening [m])

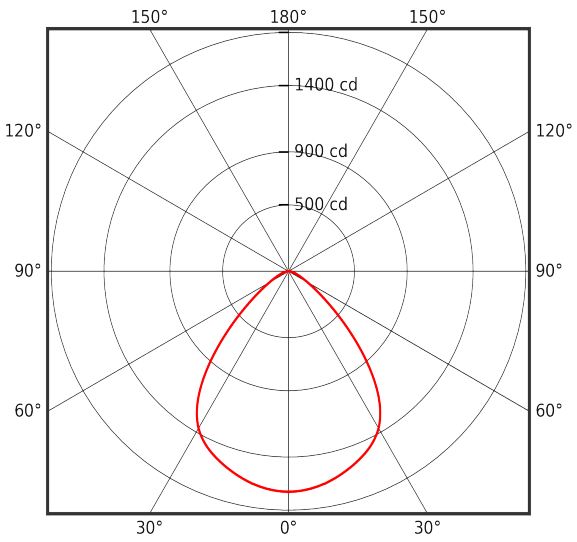


Distance [m]	1	5	10	15	20
Illuminance [lx]	1662	66	17	7	4
Diameter [m]	1.82	9.12	18.24	27.35	36.47

Light Distribution Diagrams / Illuminance



Average Light Distribution / Illuminance over all planes



Fixture Settings: Full-On; 70°-Filter

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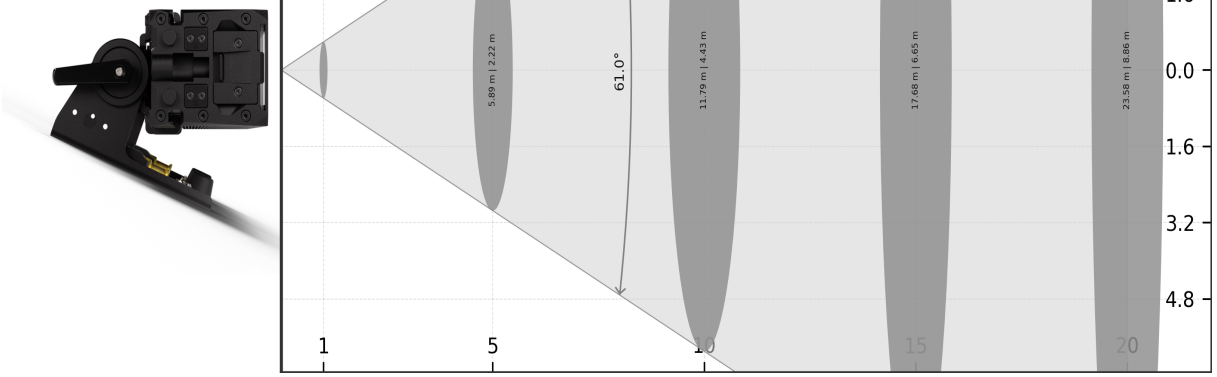
25°x55°-Filter – Photometric Report

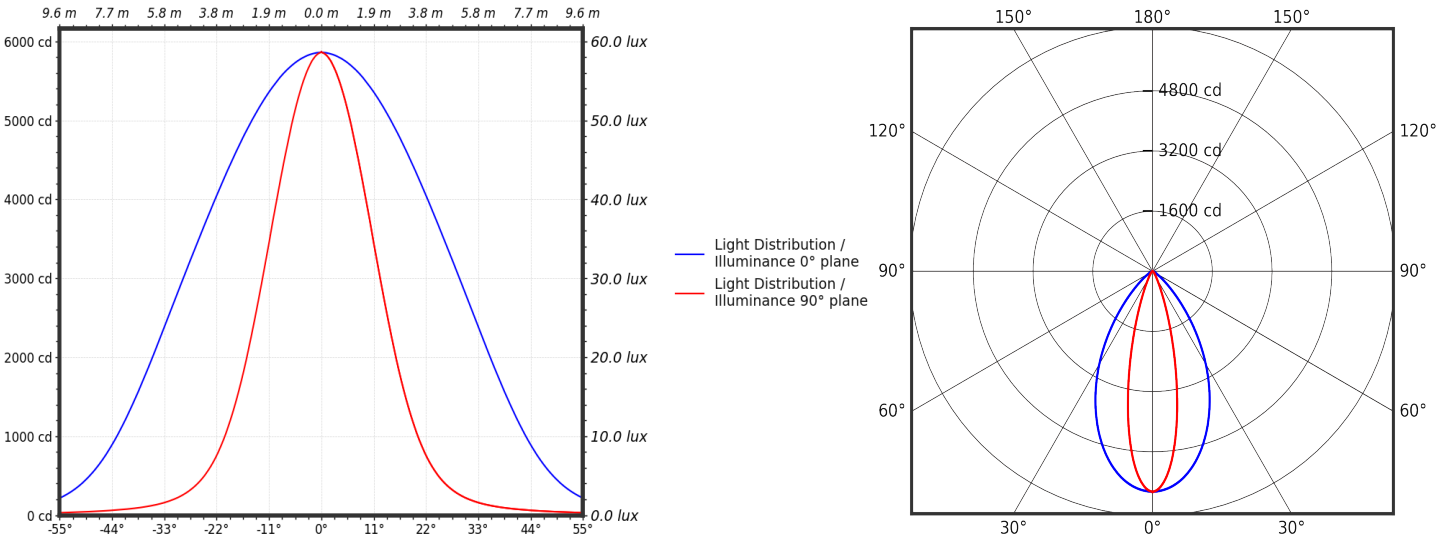
Beam Angle [°]	Field Angle [°]	Luminous flux [lm]	Power [W]	Luminous Efficacy [lm/W]
61.0 | 25.0	95.2 | 46.9	3000	80	37.6

Distance-Diameter-Diagram (Distance [m] --> Beam Opening [m])



Distance [m]	1	5	10	15	20
Illuminance [lx]	5866	235	59	26	15
Diameter [m]	1.18 | 0.44	5.89 | 2.22	11.79 | 4.43	17.68 | 6.65	23.58 | 8.86

Light Distribution Diagrams / Illuminance



Fixture Settings: Full-On; 25°x55°-Filter

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