IESNA LM79 - 2008 Test Report

Photometric testing and evaluation in accordance with LM79-2008

Report prepared for:	R. STAHL Private Limited Plot No. 5, Malrosapuram Main Road 603204 Tamil Nadu / India
Report number:	LM79-20250514-1013782 / 01

Sample tested:	6202/11-48W
Start date of test:	2025-05-14
Manufacturer:	R. STAHL Private Limited

Testing laboratory:	ILEXA GbR Werner-von-Siemens-Strasse 4a 98693 Ilmenau / Germany Tel.: (+49) 3677 / 466 33 0 Fax: (+49) 3677 / 466 33 14 Internet: www.ilexa.de

Testing location:	Technische Universität Ilmenau Fachgebiet Lichttechnik Professor-Schmidt-Strasse 26 98693 Ilmenau / Germany

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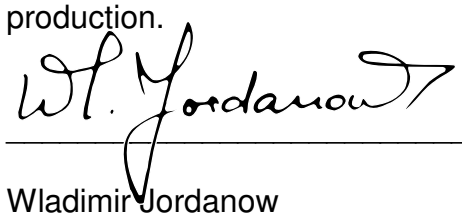
General information



Wladimir Jordanow
ILEXA GbR president

1. Scope of testing

Photometric and electrical testing in accordance with IESNA LM 79-2008 IES (Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products).

Start date of test:	2025-05-14
Report and test prepared by:	Kranhold / ILEXA GbR

2. Test method

Testing is performed in accordance with the procedures outlined in IESNA LM79-2008. The testing location is a temperature - controlled, draft free photometric laboratory.

All measurements are made using the goniophotometer / spectroradiometer test method.

3. Description of test sample

3.1. General information

Sample received: 2025-05-12

Manufacturer: R. STAHL Private Limited
Plot No. 5, Malrosapuram Main Road
603204 Tamil Nadu / India

Product type: Luminaire

Sample tested: 6202/11-48W

Model number: 25…….0320001
Date: 05.2025

Driver: internal

Fitted with: D9 2G0 AC | 5700K | 00019 & 00007

Dimensions of luminaire [mm]:

Length	1313	Diameter	-/-
Width	185	Height	128

Dimensions of luminous area [mm]:

Length	1291	Height C0	60
Width	149	Height C90	60
Diameter	-/-	Height C180	60
		Height C270	60

3.2. Manufacturer specifications

Rated power [W]: 48.00

Rated voltage [V]: 100 – 277 AC

Rated current [A]: -/-

Rated frequency [Hz]: 50...60

3.3. Pictures test sample

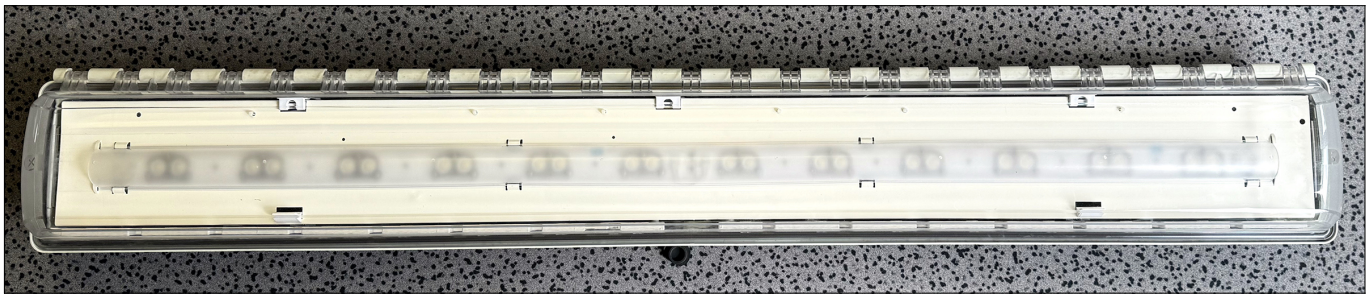


Figure 3.1: Test sample – front side view

Figure 3.2: Test sample – PCB detail view

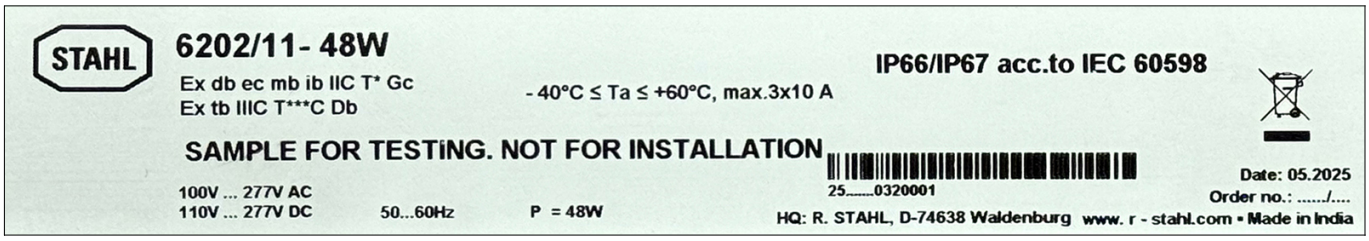


Figure 3.3: Test sample – ID label

Figure 3.4: Test sample – LED ID label

4. Measurement results

The results were obtained after stabilization of the sample in accordance with the requirements set forth in section 5.0 of IES LM79-2008.

	Goniophotometer	Spectroradiometer
Total luminous flux [lm]	5999	-/-
Luminous efficacy [lm/W]	125.8	-/-
Correlated color temperature (CCT) [K]	-/-	5720
Color rendering index (CRI – R_a)	-/-	72.4
Color rendering index (CRI – R_e)	-/-	62.4
Chromaticity (x / y)	-/-	0.3278 / 0.3343

Table 4.1: Photometric results

Input power [W]	47.70
Input voltage [V]	230.1 AC
Input current [A]	0.210
Input frequency [Hz]	50.0

Table 4.2: Electrical parameters

Orientation (burning position) during test	horizontal
Prior operation time [minutes]	> 60
Stabilization time [minutes]	40
Total operating time [minutes]	> 180
Ambient temperature [°C]	25 ± 1

Table 4.3: Additional parameters

5. Results goniophotometer

5.1. Candela plots

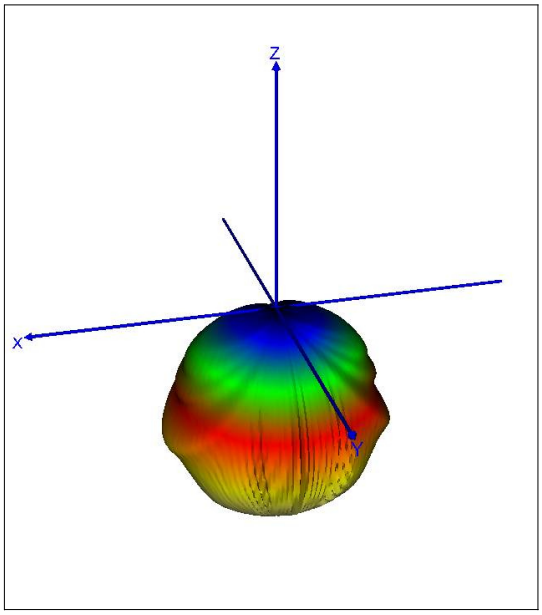


Figure 5.1: 3D - luminous intensity distribution

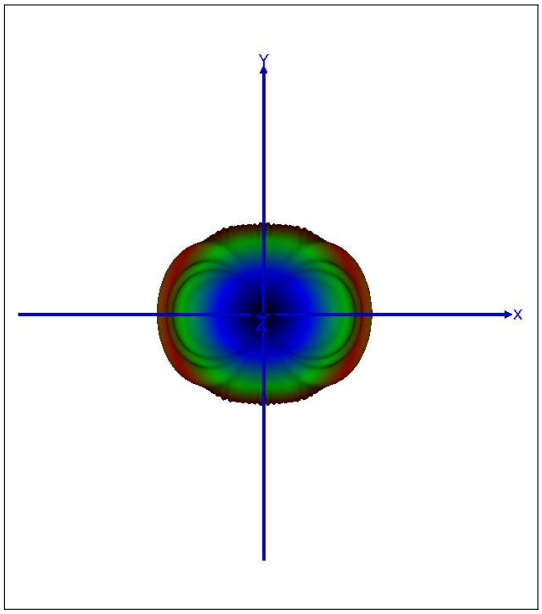


Figure 5.2: 3D - luminous intensity distribution

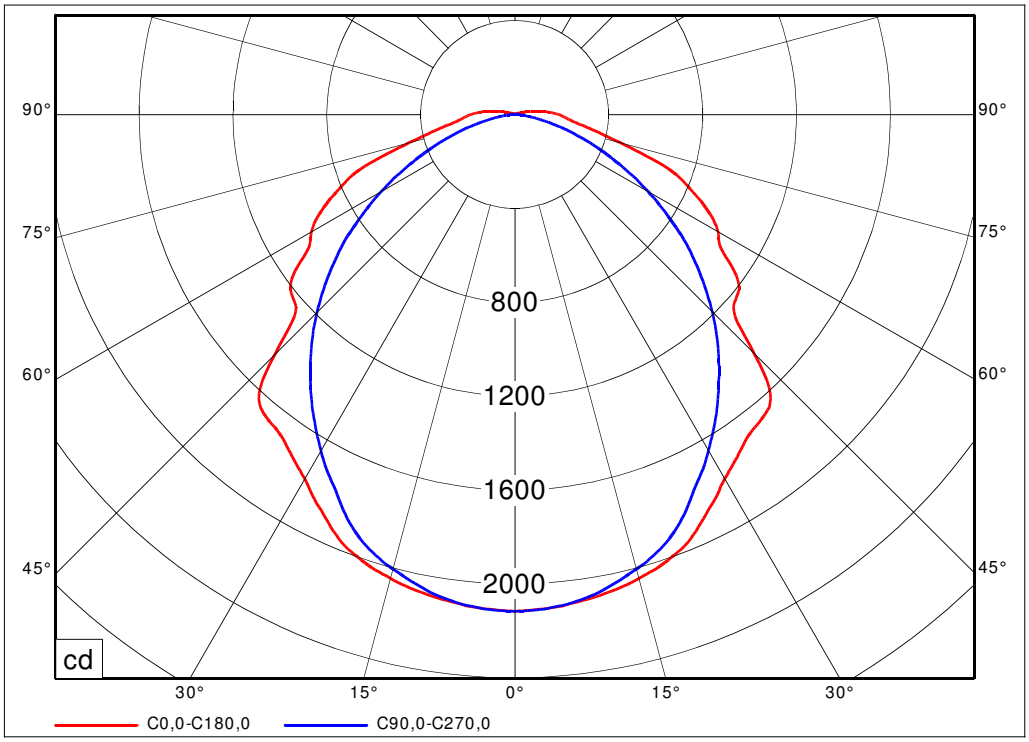


Figure 5.3: Polar candela distribution

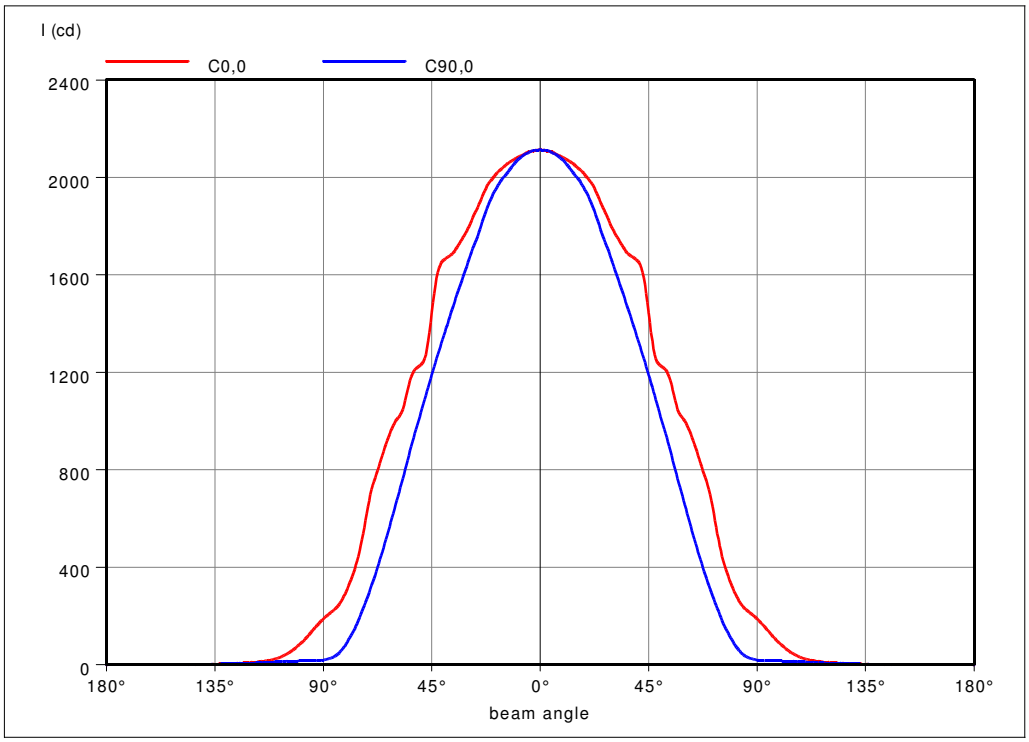


Figure 5.4: Cartesian candela distribution

5.2. Illuminance plots

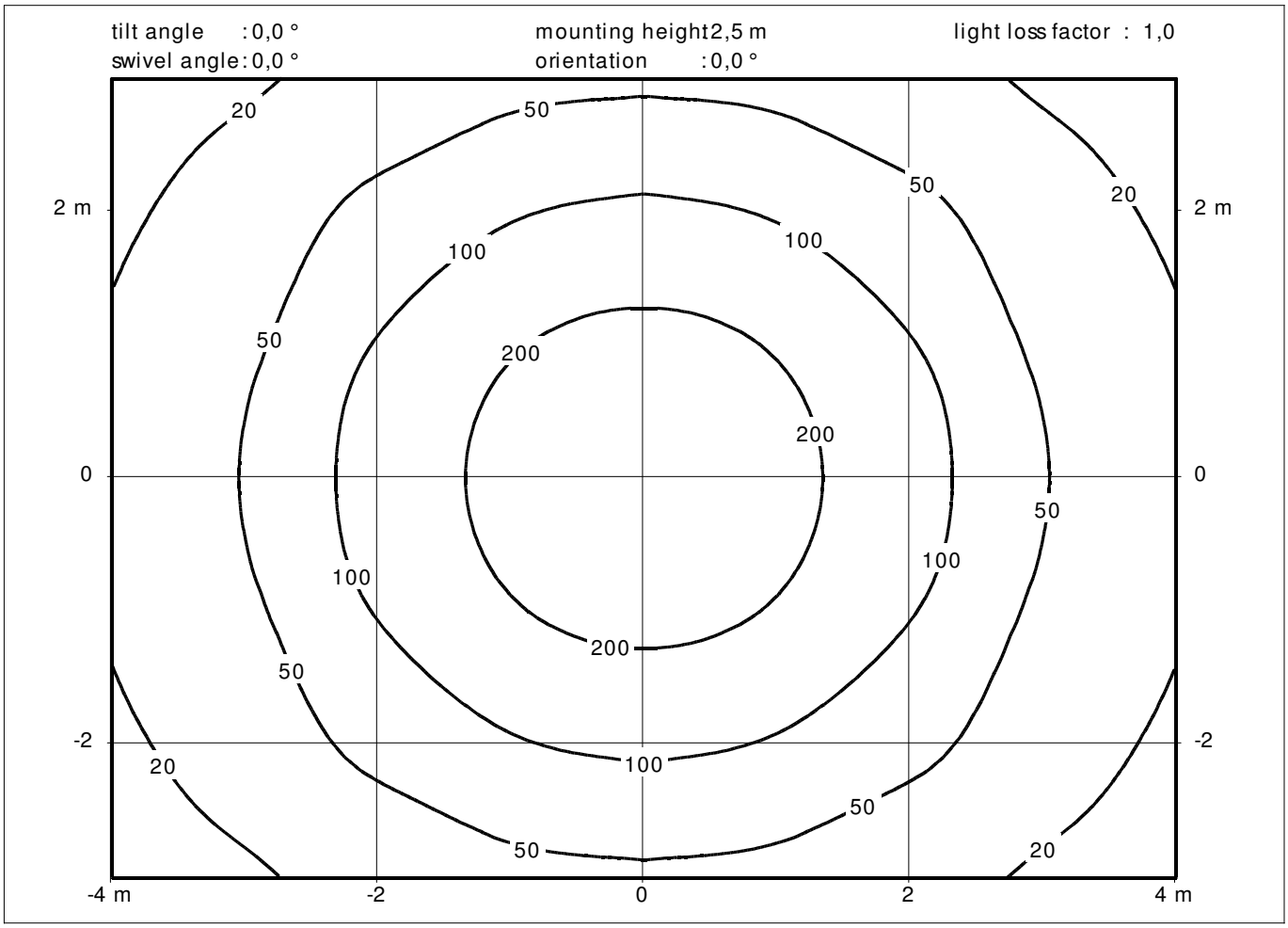


Figure 5.5: Isolux diagram

6. Results spectroradiometer

6.1. Relative spectral distribution

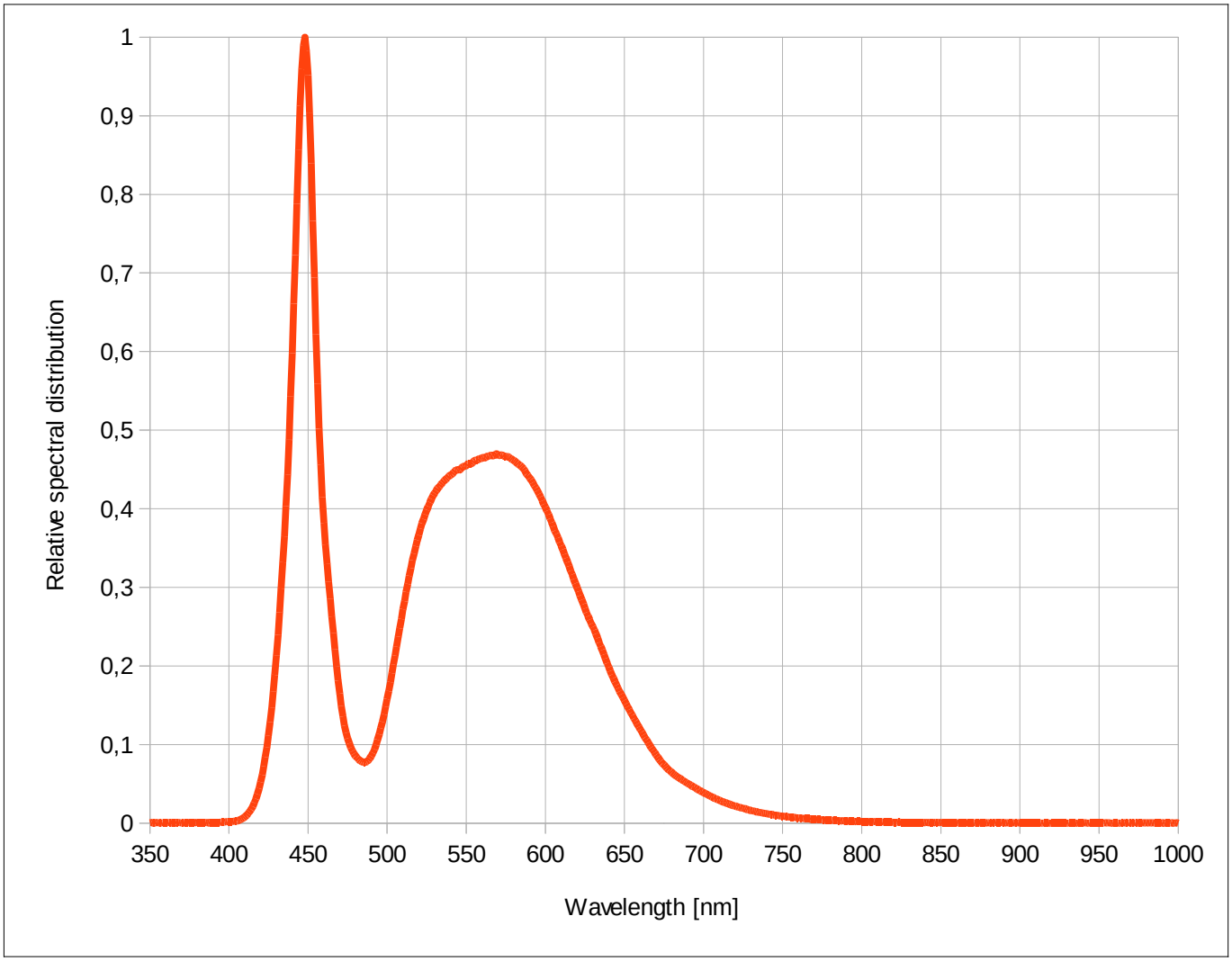


Diagram 6.1: Relative spectral distribution

6.2. Chromaticity diagram

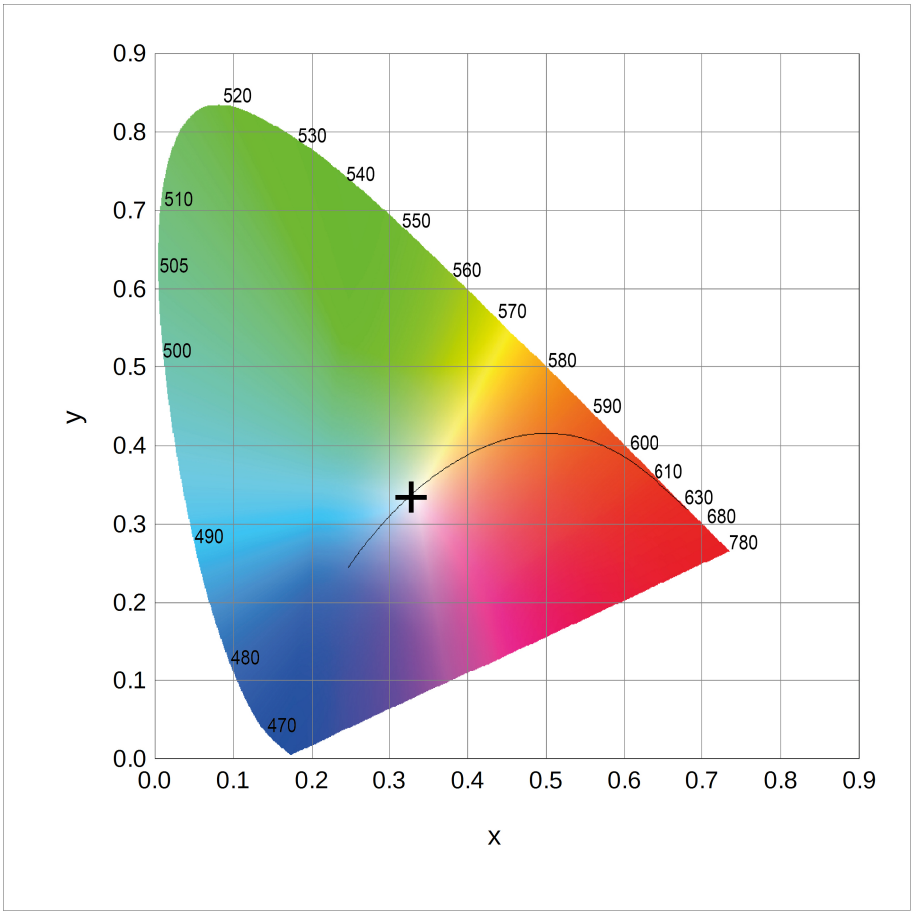


Diagram 6.2: Chromaticity diagram

Tristimulus Value	
x	0.3278
y	0.3343

Table 6.1: Chromaticity coordinates

The location of the tristimulus coordinates is indicated by the black cross on the diagram.

6.3. Color calculation

color sample	CRI	color sample	CRI
R1	71.7	R9	-24.1
R2	76.1	R10	41.5
R3	77.4	R11	72.4
R4	74.3	R12	41.8
R5	72.4	R13	71.8
R6	66.7	R14	87.1
R7	79.8	R15	66.7
R8	60.5		
Ra	**72.4**	**CCT [K]**	**5720**
Re	**62.4**		

Table 6.2: Color calculation – CRI R1-R15, Ra, Re and correlated color temperature

7. List of testing equipments

Item	Manufacturer	Model	Calibration due
Goniophotometer	TechnoTeam	RiGo801	yearly
Power supply	Statron	Typ 1201	N/A
Power supply	Statron AG	BE2/01H-IP-R20-B	N/A
Power supply	Elgar	CW801	N/A
Power supply	TDK-Lambda	GEN60-12.5	N/A
Power supply	Delta Elektronika	ES 075-2	N/A
Digital power meter	Yokogawa	WT110	N/A
Digital power meter	Yokogawa	WT210	N/A
Digital Multimeter	Fluke	8845A	N/A
Digital oscilloscope	Tektronix	TDS3014B	N/A
Spectroradiometer	JETI	specbos 1211	yearly
Spectroradiometer	JETI	specbos 1201	yearly
Spectroradiometer	Optronic Laboratories	OL 750	yearly
Spectroradiometer	UPRtek	MK350S Premium	yearly
Integrating sphere	GL Optic	GLS 500	N/A

Table 7.1: Test instrumentation