



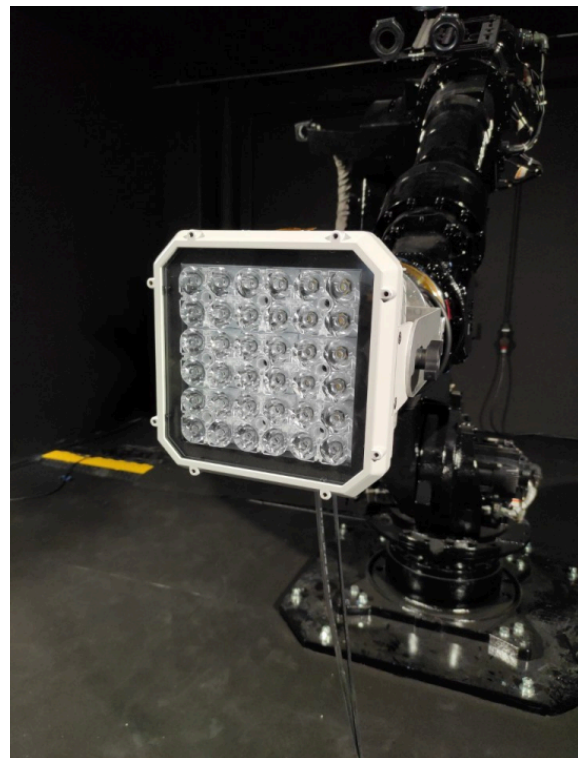
ArenaLED Photometric Report

Report 2023-03-24-2

GLP German Light Products GmbH
GLP LightLab

Maximum Total Lumens	17800	lm
Maximum Intensity	225000	cd
CRI	88	
Energy Efficiency Class	A+	
Energy Efficiency Index	0.15	
Power Consumption	201	$\frac{\text{kWh}}{1000\text{ h}}$

Serial Number	Proto
Measurement Date	2023-03-24 12:32
Analysis Date	2023-03-27 08:21
Analysis SW Version	2.8.3

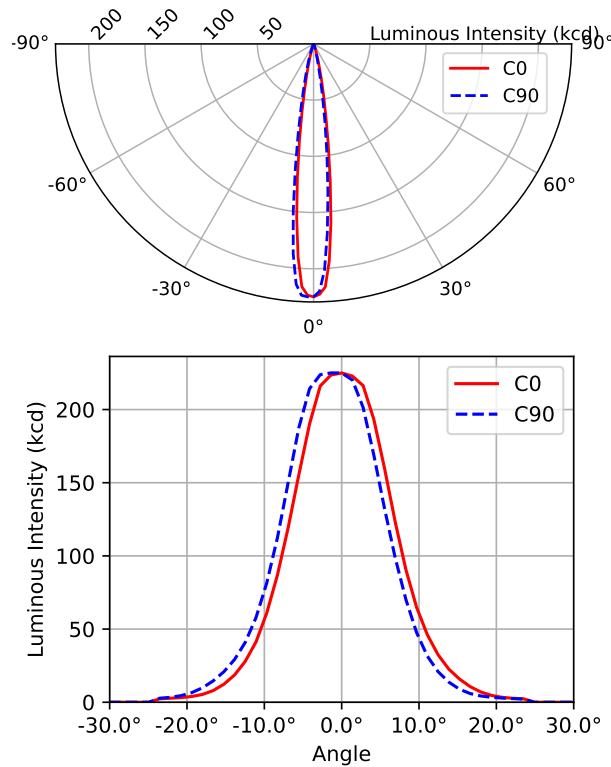




Contents

1	Light Distribution White, Full Beam	2
2	White Quality – Spectrum	3
2.1	TM-30-15 Detail Plots	4
2.2	TLCI-2012 Results	6

1 Light Distribution White, Full Beam



Type B measurement, 1296 data points.

Table 1: Opening angles for different intensity thresholds. White, Full

		C0	C90
Beam Angle	50 %	15°	15°
Field Angle	10 %	27°	27°
Cutoff Angle	3 %	35°	36°

Table 2: Luminous flux, integrated over the beam for several minimum threshold intensities. White, Full

		Flux (lm)
Half-Peak Output	@50 %	8810
Tenth-Peak Output	@10 %	15 800
Total Lumen Output	@3 %	17 800

$$\text{diameter} = 0.26 \times \text{distance}$$

$$\text{illuminance} = \frac{225\,000 \text{ lx}}{(\text{distance [m]})^2}$$

Figure 1: Polar and cartesian light intensity distributions. White, Full

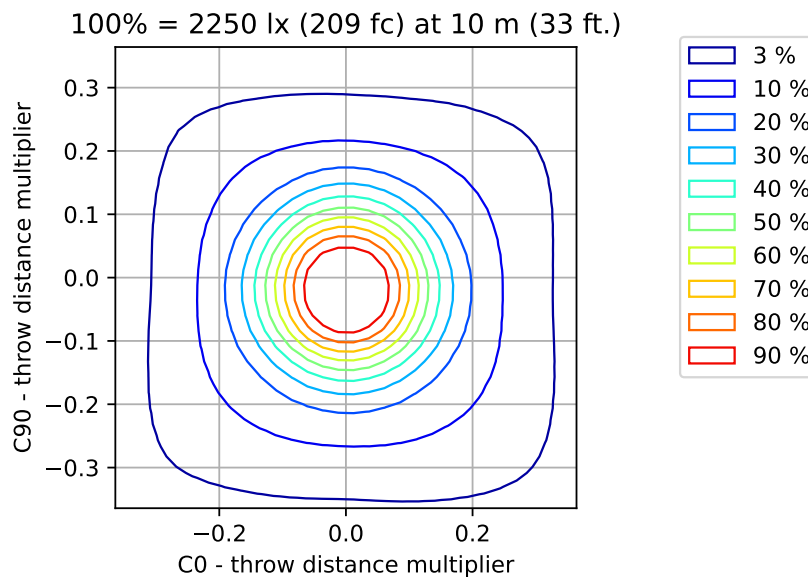


Figure 2: Iso-illuminance diagram of projected beam. White, Full
dist. from origin = throw dist. × throw dist. multiplier

Table 3: Quick calculation diagram for illuminance and beam diameter. White, Full

Parameter	Factor	Projection Distance [m]									
		5	7.5	10	12.5	15	17.5	20	22.5	25	
Diameter [m]	0.26	1.3	1.9	2.6	3.2	3.9	4.5	5.2	5.8	6.4	
Illuminance [lx]	225k	9.0k	4.0k	2.3k	1.4k	1.0k	730	560	440	360	

2 White Quality – Spectrum

Table 4: Summary for Spectrum spectral measurement results and color metrics.

Metric	Value
CCT	5542 K
CCT D_{uv}	0.0013
CRI R_a	88
CRI R_g	33
TLCI-2012	81
TM-30-15 R_f	98
TM-30-15 R_g	86
CIE 1931 x	0.331
CIE 1931 y	0.343
CIE 1960 u	0.206
CIE 1960 v	0.319

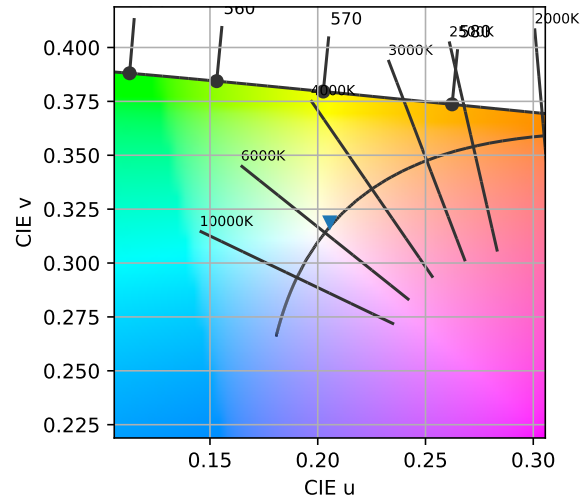


Figure 3: Color coordinates in CIE 1960 chromaticity diagram. Spectrum

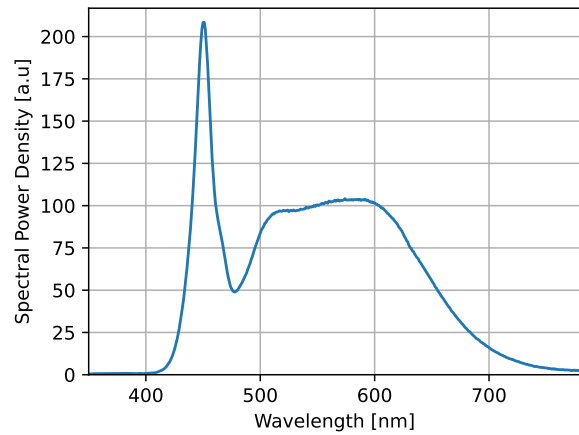
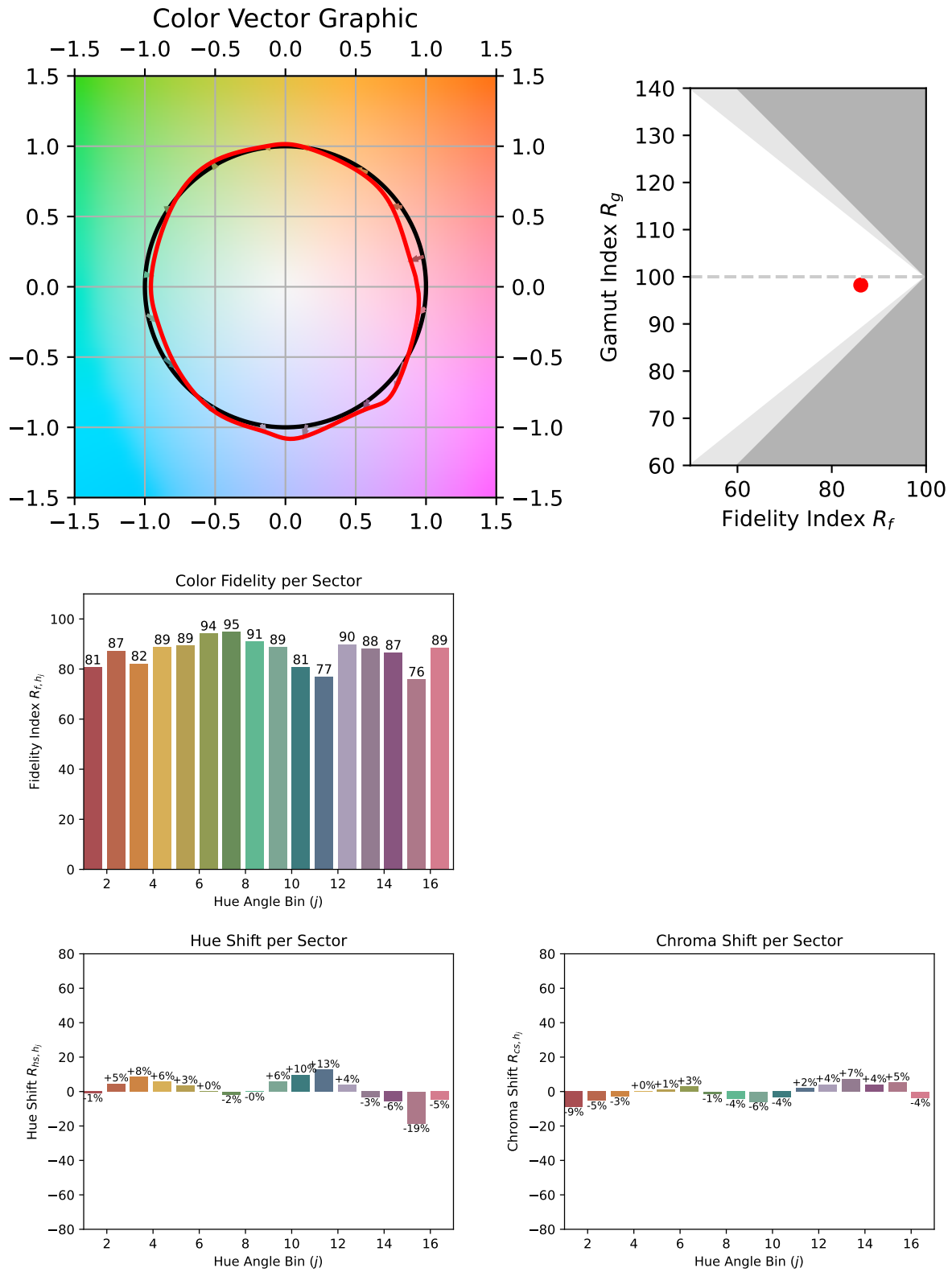
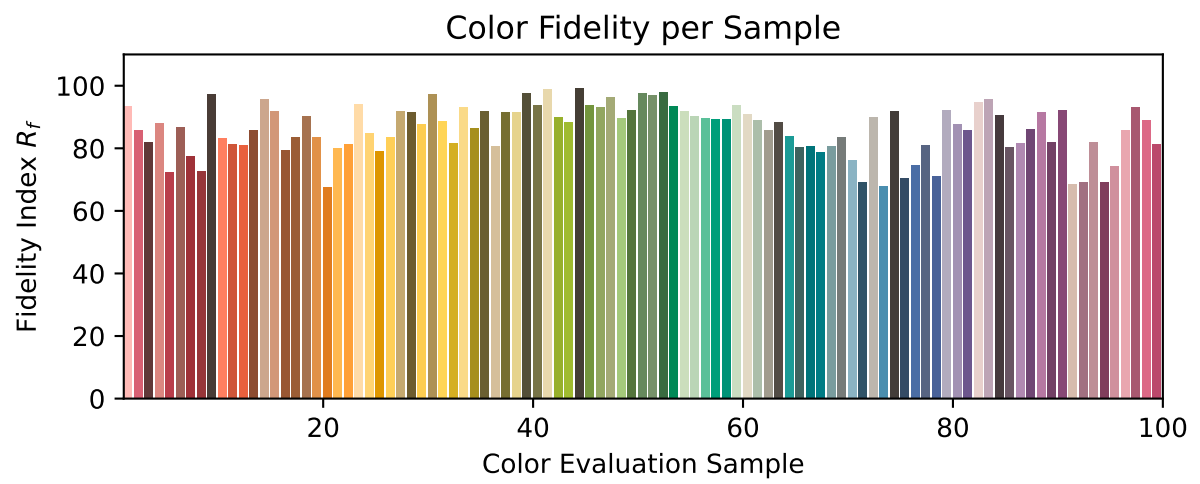


Figure 4: Measured Spectral Power Distribution of light source. Spectrum

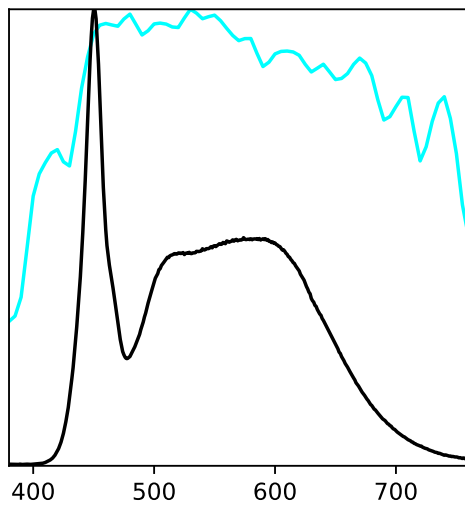
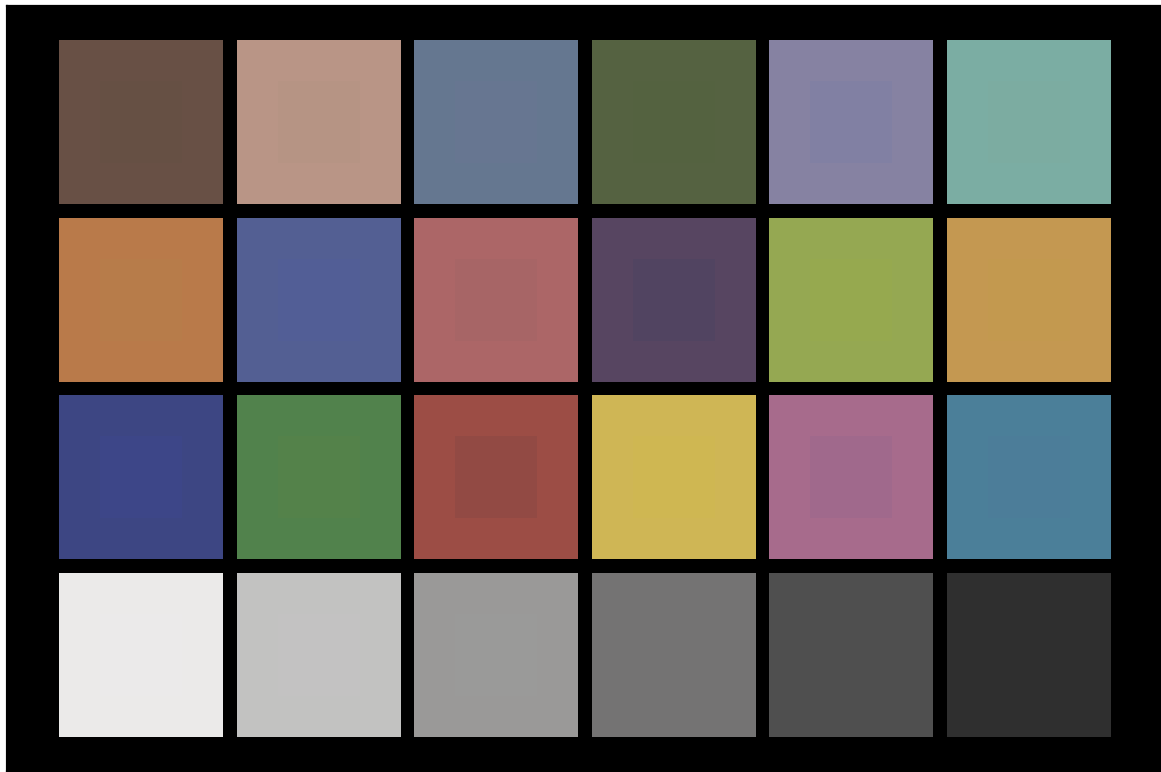
2.1 TM-30-15 Detail Plots





2.2 TLCI-2012 Results

ArenaLED Spectrum : CCT = D5544 – 0.37, TLCI = 81



Sector	Lightness	Chroma	Hue
R	3	3	3
R/Y	1	1	1
Y	2	2	2
Y/G	1	1	1
G	1	1	1
G/C	1	1	1
C	2	2	2
C/B	1	1	1
B	2	2	2
B/M	4	4	4
M	4	4	4
M/R	5	5	5