

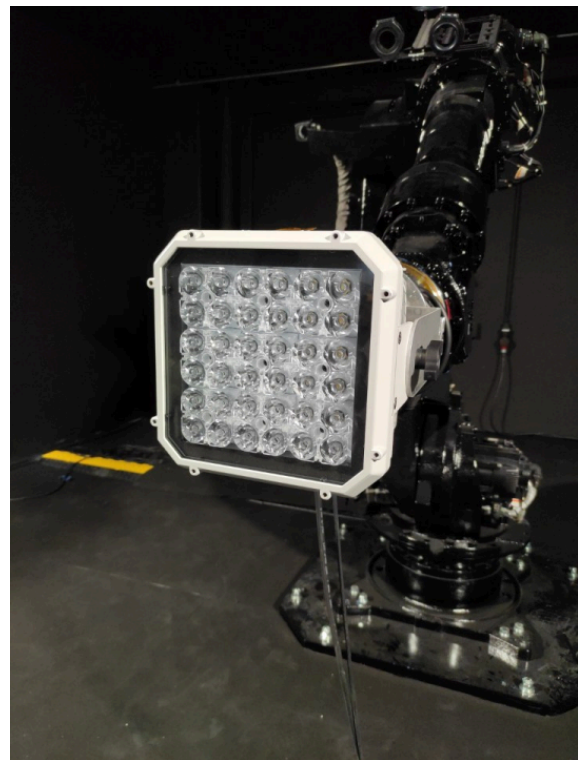


ArenaLED  
TLO CRI CCT  
Photometric Report

Report 2023-03-24-1

GLP German Light Products GmbH  
GLP LightLab

Maximum Total Lumens	23600	lm
Maximum Intensity	298000	cd
CRI	88	
Energy Efficiency Class	A+	
Energy Efficiency Index	0.14	
Power Consumption	257	$\frac{\text{kWh}}{1000\text{h}}$
Serial Number	Proto	
Measurement Date	2023-03-24 10:18	

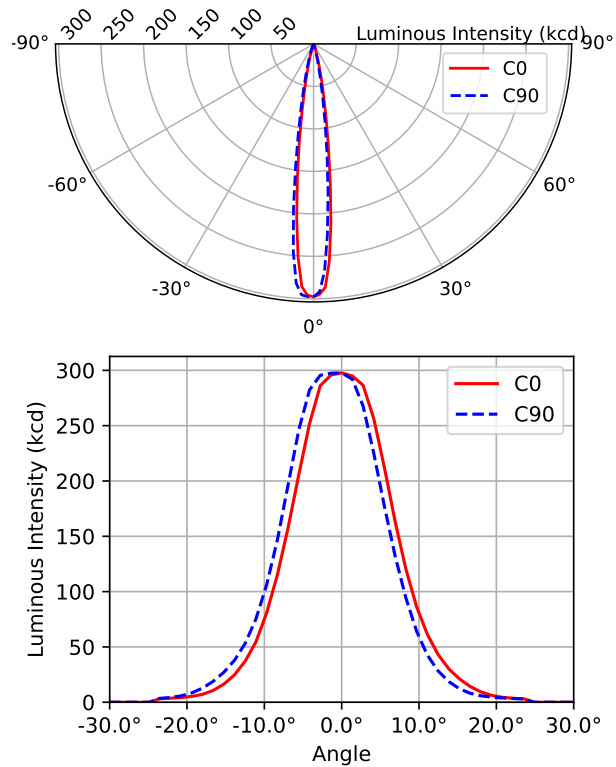




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# 1 Light Distribution White, Full Beam



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 %	11 600
Tenth-Peak Output	@10 %	20 900
Total Lumen Output	@3 %	23 600

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

$$\text{illuminance} = \frac{298\,000 \text{ lx}}{(\text{distance [m]})^2}$$

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

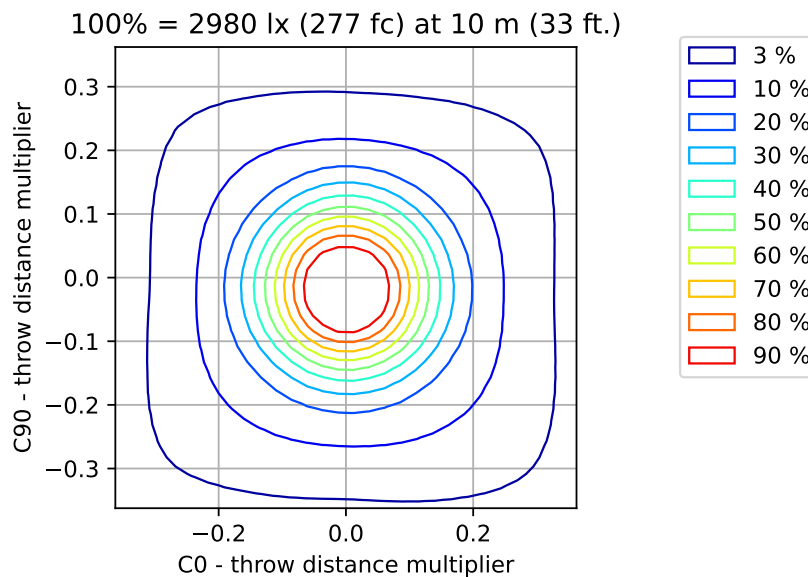


Figure 2: Iso-illuminance diagram of projected beam. White, Full  
dist. from origin = throw dist. × throw dist. multiplier

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	6.5	
Illuminance [lx]	298k	12k	5.3k	3.0k	1.9k	1.3k	970	740	590	480	

## 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

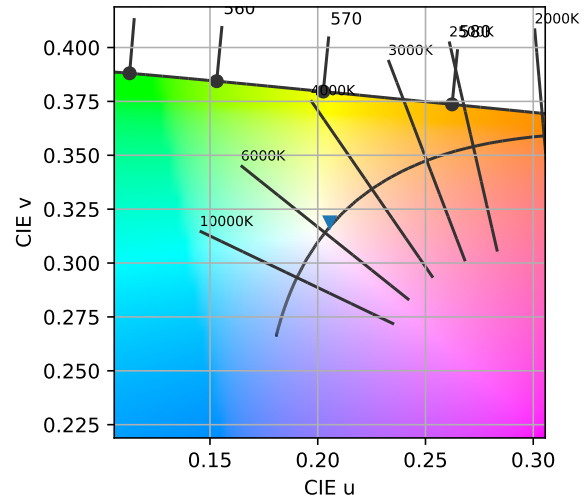


Figure 3: Color coordinates in CIE 1960 chromaticity diagram. Spectrum

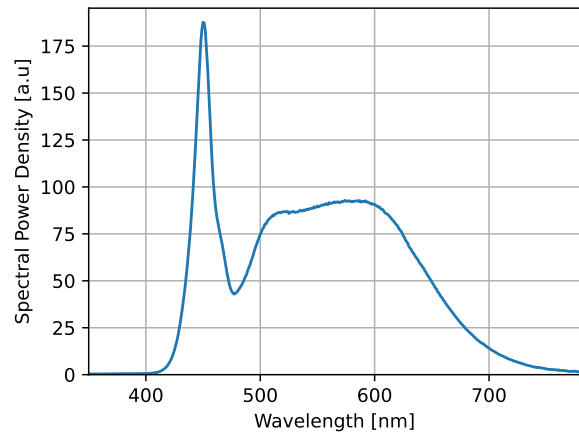
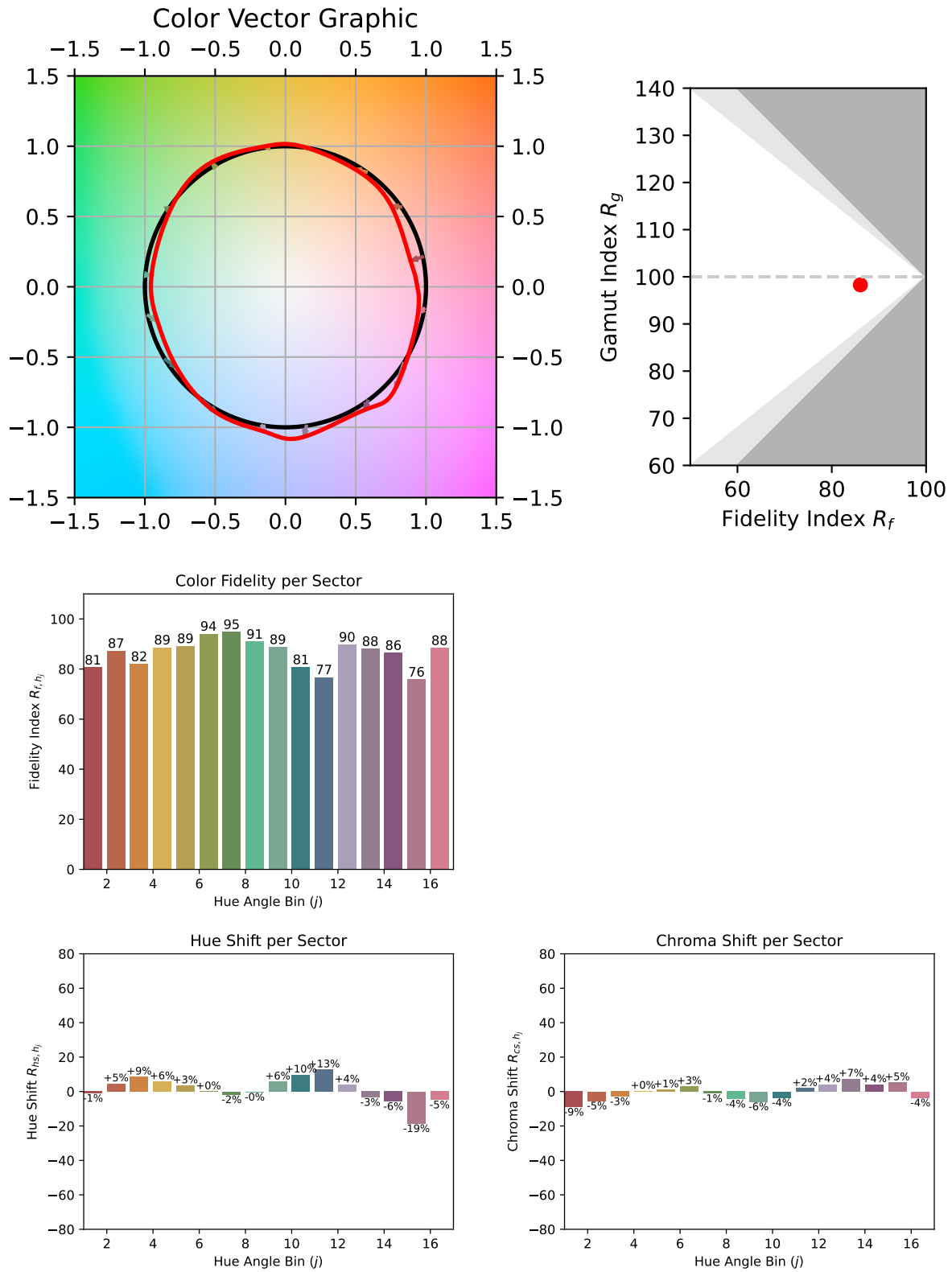
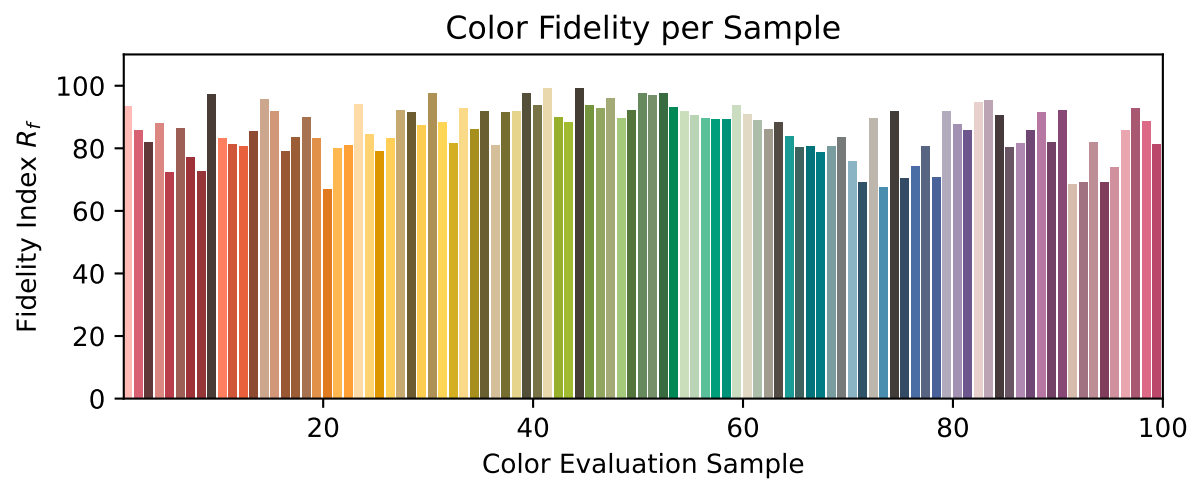


Figure 4: Measured Spectral Power Distribution of light source. Spectrum

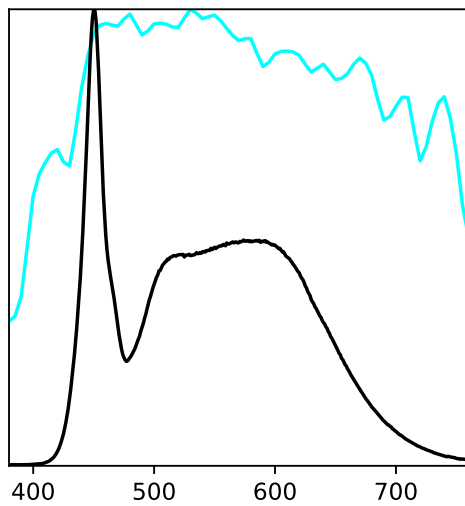
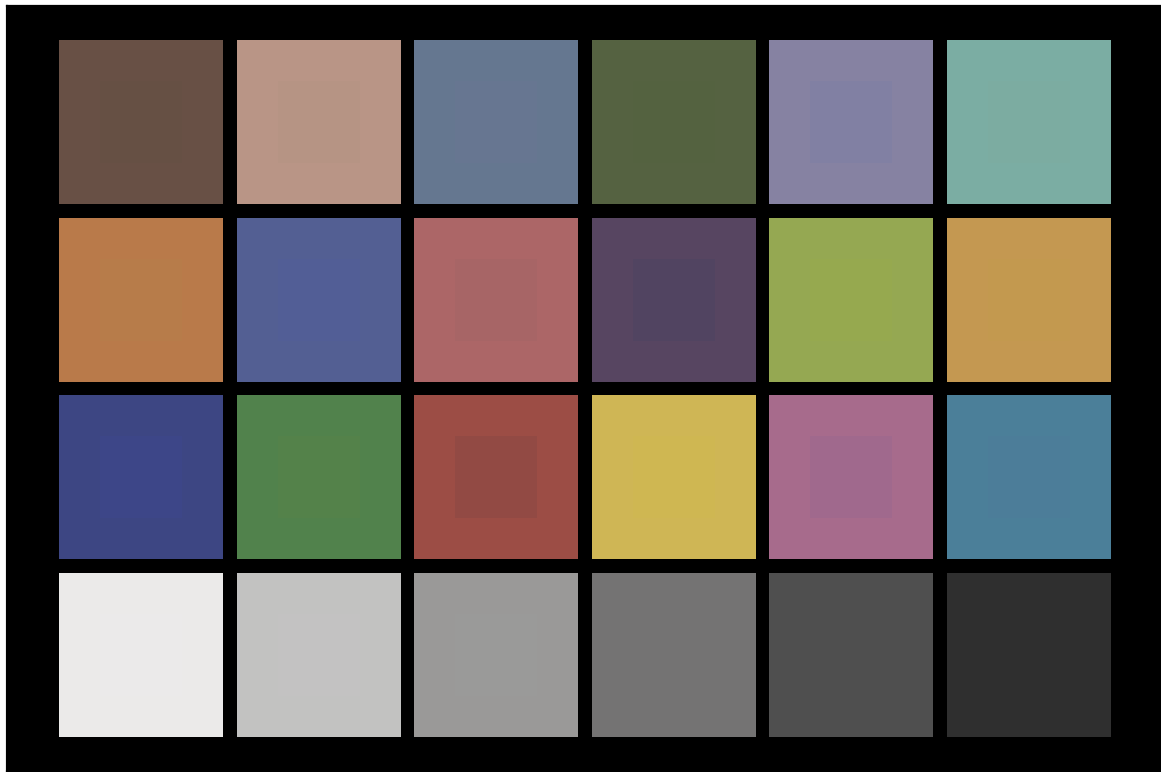
## 2.1 TM-30-15 Detail Plots





## 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