

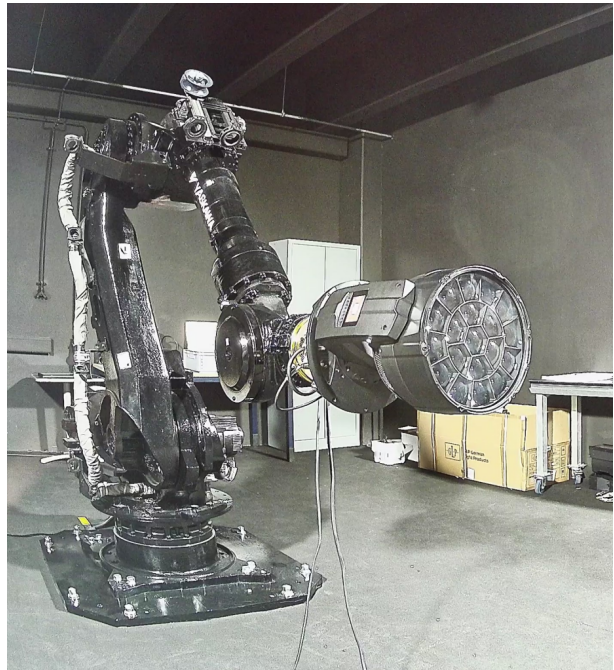


# impression X5 IP Photometric Report

Report 2024-10-07-1

GLP German Light Products GmbH  
GLP LightLab

Maximum Total Lumens	11300 lm
Maximum Intensity	1820000 cd
Energy Efficiency Class	B
Energy Efficiency Index	0.87
Power Consumption	732 $\frac{\text{kWh}}{1000 \text{ h}}$
Serial Number	Prototype1
Measurement Date	2024-10-07 15:57
Analysis SW Version	30b67d0





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# 1 Light Distribution

Table 1: Summary of beam opening angles for different fixture configurations.

Beam	Beam Angle (50 %)		Field Angle (10 %)		Cutoff Angle (3 %)	
	C0	C90	C0	C90	C0	C90
Wide, RGBL TLO	36°	36°	53°	53°	63°	63°
Medium, RGBL TLO	17°	17°	25°	24°	27°	27°
Narrow, RGBL TLO	3.6°	3.6°	4.8°	4.7°	5.2°	5.1°

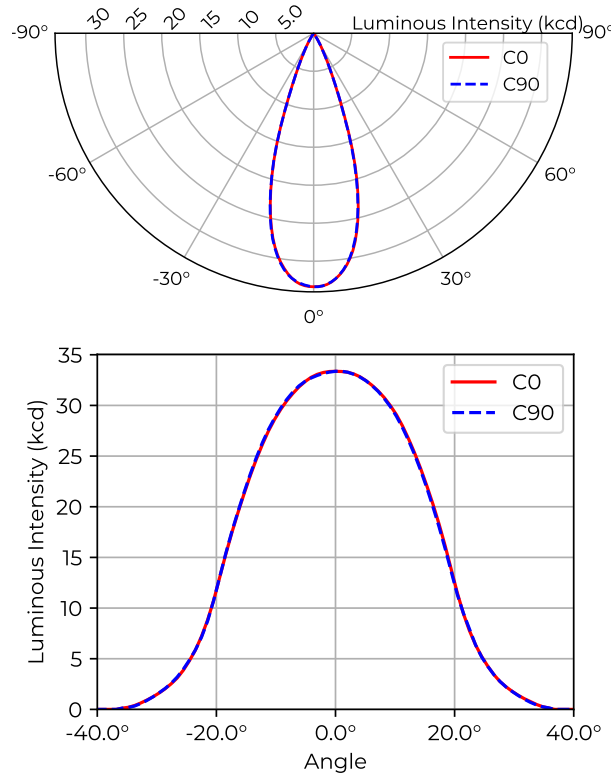
Table 2: Summary of luminous flux and intensity for different fixture configurations.

Beam	Total Lumen Output	Peak Luminous Intensity)
Wide, RGBL TLO	11.3 klm	33.4 kcd
Medium, RGBL TLO	9.64 klm	131 kcd
Narrow, RGBL TLO	5.96 klm	1.82 Mcd

Table 3: Approximate illuminance and beam diameter at different projection distances, calculated with the inverse-square law. The approximation is valid only for large distances, compared to the size of the fixture output port.

Beam	Parameter	Factor	Projection Distance [m]								
			5	7.5	10	12.5	15	17.5	20	22.5	25
Wide, RGBL TLO	Diameter [m]	0.65	3.2	4.9	6.5	8.1	9.7	11	13	15	16
	Illuminance [lx]	33.4k	1.3k	590	330	210	150	110	83	66	53
Medium, RGBL TLO	Diameter [m]	0.30	1.5	2.2	3.0	3.7	4.4	5.2	5.9	6.7	7.4
	Illuminance [lx]	131k	5.3k	2.3k	1.3k	840	580	430	330	260	210
Narrow, RGBL TLO	Diameter [m]	0.063	0.32	0.48	0.63	0.79	0.95	1.1	1.3	1.4	1.6
	Illuminance [lx]	1.82M	73k	32k	18k	12k	8.1k	5.9k	4.5k	3.6k	2.9k

## 1.1 Wide, RGBL TLO Beam



Type B measurement, 5184 data points.

Table 4: Opening angles for different intensity thresholds. Wide, RGBL TLO

		C0	C90
Beam Angle	50 %	36°	36°
Field Angle	10 %	53°	53°
Cutoff Angle	3 %	63°	63°

Table 5: Luminous flux, integrated over the beam for several minimum threshold intensities. Wide, RGBL TLO

		Flux (lm)
Half-Peak Output	@50 %	7820
Tenth-Peak Output	@10 %	10 800
Total Lumen Output	@3 %	11 300

$$\text{diameter} = 0.65 \times \text{distance}$$

$$\text{illuminance} = \frac{33\,400 \text{ lx}}{(\text{distance [m]})^2}$$

Figure 1: Polar and cartesian light intensity distributions. Wide, RGBL TLO

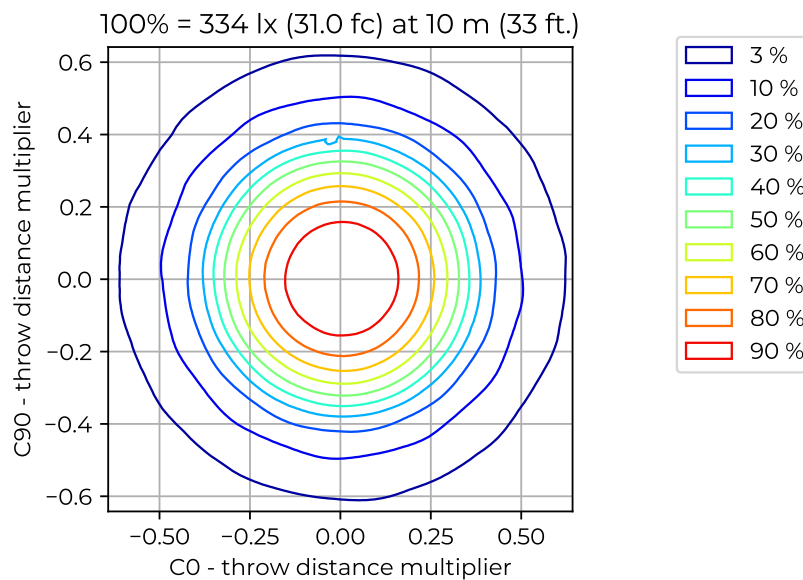
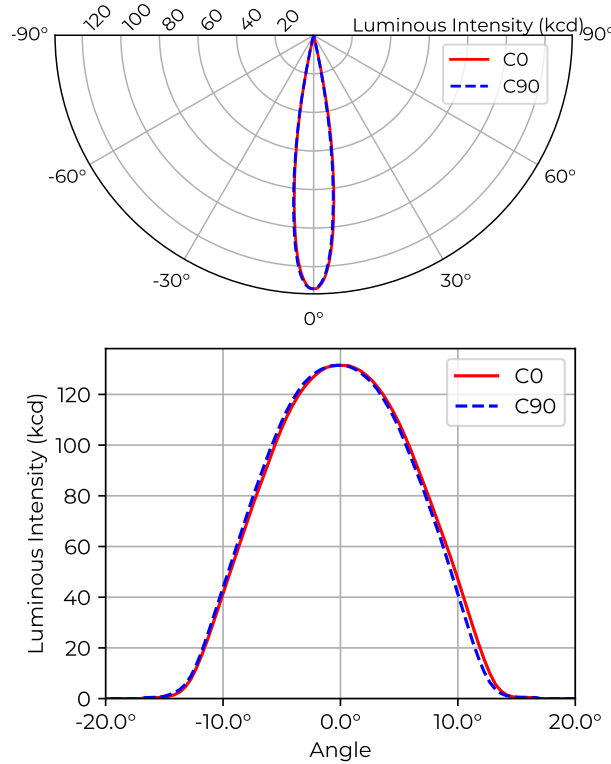


Figure 2: Iso-illuminance diagram of projected beam. Wide, RGBL TLO  
dist. from origin = throw dist. × throw dist. multiplier

Table 6: Quick calculation diagram for illuminance and beam diameter. Wide, RGBL TLO

Parameter	Factor	Projection Distance [m]									
		5	7.5	10	12.5	15	17.5	20	22.5	25	
Diameter [m]	0.65	3.2	4.9	6.5	8.1	9.7	11	13	15	16	
Illuminance [lx]	33.4k	1.3k	590	330	210	150	110	83	66	53	

## 1.2 Medium, RGBL TLO Beam



Type B measurement, 5184 data points.

Table 7: Opening angles for different intensity thresholds. Medium, RGBL TLO

		C0	C90
Beam Angle	50 %	17°	17°
Field Angle	10 %	25°	24°
Cutoff Angle	3 %	27°	27°

Table 8: Luminous flux, integrated over the beam for several minimum threshold intensities. Medium, RGBL TLO

		Flux (lm)
Half-Peak Output	@50 %	6600
Tenth-Peak Output	@10 %	9420
Total Lumen Output	@3 %	9640

$$\text{diameter} = 0.30 \times \text{distance}$$

$$\text{illuminance} = \frac{131\,000 \text{ lx}}{(\text{distance [m]})^2}$$

Figure 3: Polar and cartesian light intensity distributions. Medium, RGBL TLO

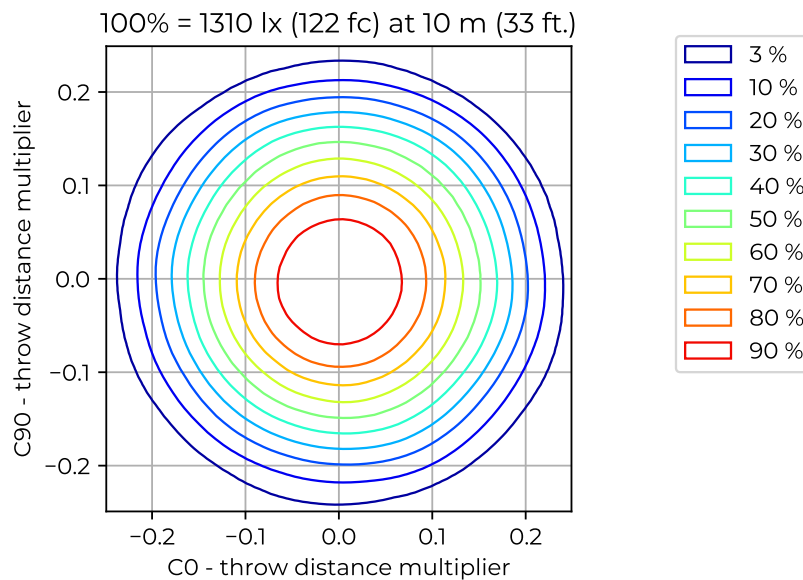
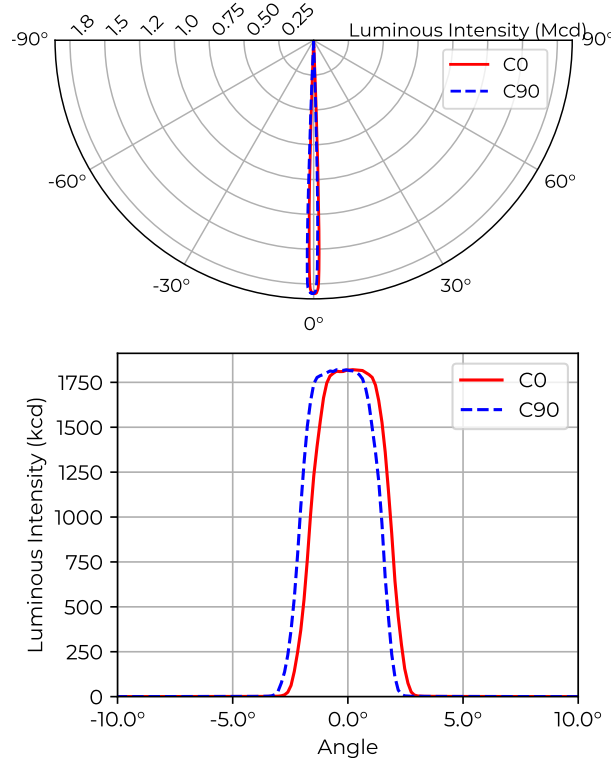


Figure 4: Iso-illuminance diagram of projected beam. Medium, RGBL TLO  
dist. from origin = throw dist. × throw dist. multiplier

Table 9: Quick calculation diagram for illuminance and beam diameter. Medium, RGBL TLO

		Projection Distance [m]								
Parameter	Factor	5	7.5	10	12.5	15	17.5	20	22.5	25
Diameter [m]	0.30	1.5	2.2	3.0	3.7	4.4	5.2	5.9	6.7	7.4
Illuminance [lx]	131k	5.3k	2.3k	1.3k	840	580	430	330	260	210

### 1.3 Narrow, RGBL TLO Beam



Type B measurement, 5184 data points.

Table 10: Opening angles for different intensity thresholds. Narrow, RGBL TLO

	C0	C90
Beam Angle 50 %	3.6°	3.6°
Field Angle 10 %	4.8°	4.7°
Cutoff Angle 3 %	5.2°	5.1°

Table 11: Luminous flux, integrated over the beam for several minimum threshold intensities. Narrow, RGBL TLO

	Flux (lm)	
Half-Peak Output @50 %	4820	
Tenth-Peak Output @10 %	5840	
Total Lumen Output @3 %	5960	

$$\text{diameter} = 0.063 \times \text{distance}$$

$$\text{illuminance} = \frac{1\,820\,000\text{ lx}}{(\text{distance [m]})^2}$$

Figure 5: Polar and cartesian light intensity distributions. Narrow, RGBL TLO

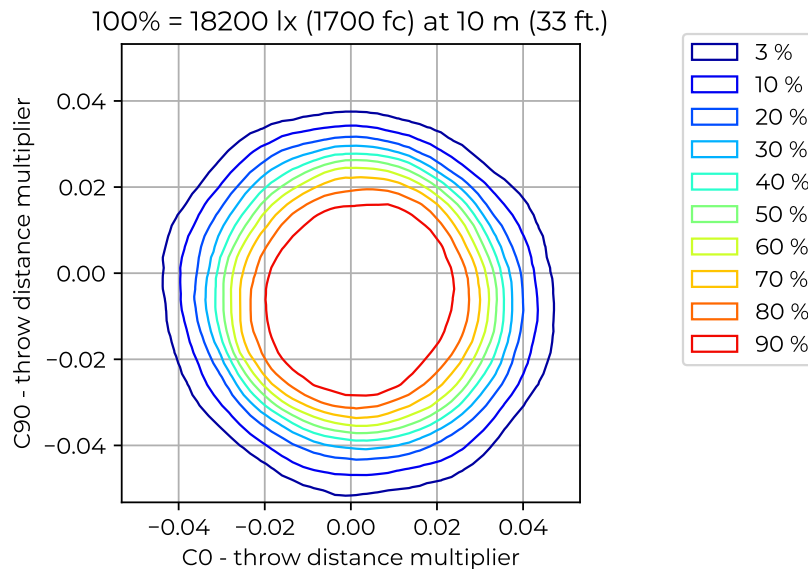


Figure 6: Iso-illuminance diagram of projected beam. Narrow, RGBL TLO  
dist. from origin = throw dist. × throw dist. multiplier

Table 12: Quick calculation diagram for illuminance and beam diameter. Narrow, RGBL TLO

Parameter	Factor	Projection Distance [m]									
		5	7.5	10	12.5	15	17.5	20	22.5	25	
Diameter [m]	0.063	0.32	0.48	0.63	0.79	0.95	1.1	1.3	1.4	1.6	
Illuminance [lx]	1.82M	73k	32k	18k	12k	8.1k	5.9k	4.5k	3.6k	2.9k	