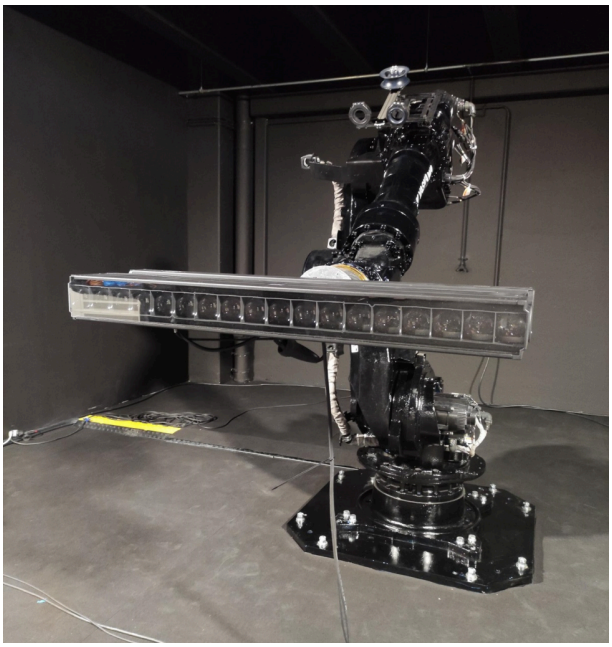
impression X5 Bar
Photometric Report

Report 2023-04-19-1

GLP German Light Products GmbH
GLP LightLab

Maximum Total Lumens	7820	lm
Maximum Intensity	1090000	cd
Energy Efficiency Class	C	
Energy Efficiency Index	0.97	
Power Consumption	563	$\frac{\text{kW h}}{1000\,\text{h}}$

Lamp	18 x RGBL 40W
Serial Number	2000400008
Measurement Date	2023-04-19 12:48
Analysis SW Version	2.8.3



Contents

1 Light Distribution

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

Beam	Beam Angle (50 %) C0	C90	Field Angle (10 %) C0	C90	Cutoff Angle (3 %) C0	C90
Narrow, RGBL	4.4°	3.0°	7.2°	4.7°	8.2°	5.4°
Medium, RGBL	17°	17°	23°	23°	25°	24°
Wide, RGBL	36°	36°	55°	49°	63°	53°

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

Beam	Total Lumen Output	Peak Luminous Intensity)
Narrow, RGBL	4.19 klm	1.09 Mcd
Medium, RGBL	6.94 klm	90.3 kcd
Wide, RGBL	7.82 klm	23.3 kcd

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.

			Projection Distance [m]								
Beam	Parameter	Factor	5	7.5	10	12.5	15	17.5	20	22.5	25
Narrow, RGBL	Diameter [m]	0.064	0.32	0.48	0.64	0.80	0.96	1.1	1.3	1.4	1.6
	Illuminance [lx]	1.05M	42k	19k	10k	6.7k	4.7k	3.4k	2.6k	2.1k	1.7k
Medium, RGBL	Diameter [m]	0.31	1.5	2.3	3.1	3.8	4.6	5.4	6.1	6.9	7.7
	Illuminance [lx]	90.2k	3.6k	1.6k	900	580	400	290	230	180	140
Wide, RGBL	Diameter [m]	0.65	3.2	4.9	6.5	8.1	9.7	11	13	15	16
	Illuminance [lx]	23.2k	930	410	230	150	100	76	58	46	37

1.1 Narrow, RGBL Beam

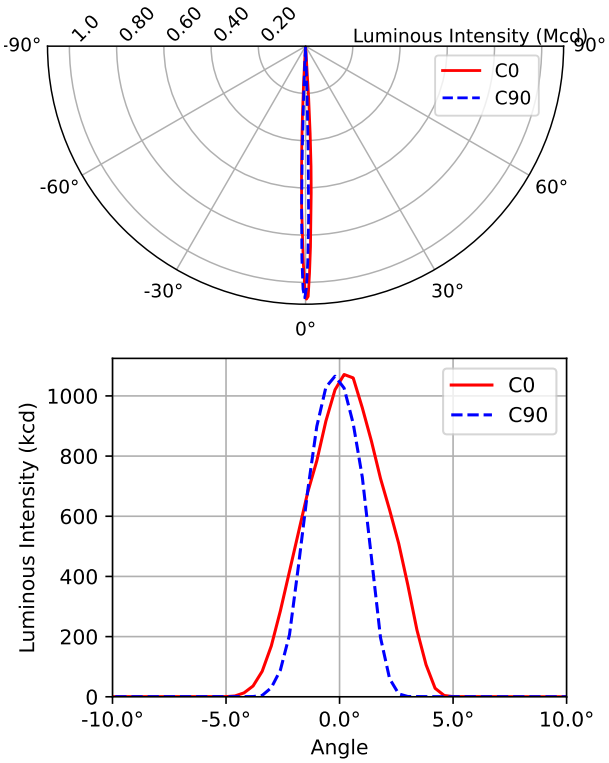


Figure 1: Polar and cartesian light intensity distributions. Narrow, RGBL

Type B measurement, 1296 data points.

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

		C0	C90
Beam Angle	50 %	4.4°	3.0°
Field Angle	10 %	7.2°	4.7°
Cutoff Angle	3 %	8.2°	5.4°

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

		Flux (lm)
Half-Peak Output	@50 %	2560
Tenth-Peak Output	@10 %	4010
Total Lumen Output	@3 %	4190

$$\text{diameter} = 0.064 \times \text{distance}$$

$$\text{illuminance} = \frac{1\,050\,000\,\text{lx}}{(\text{distance}\,[\text{m}])^2}$$

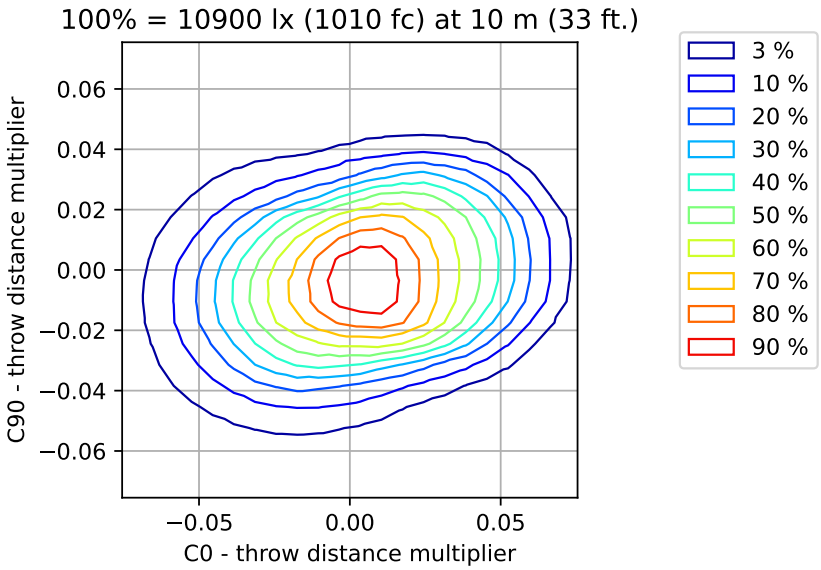
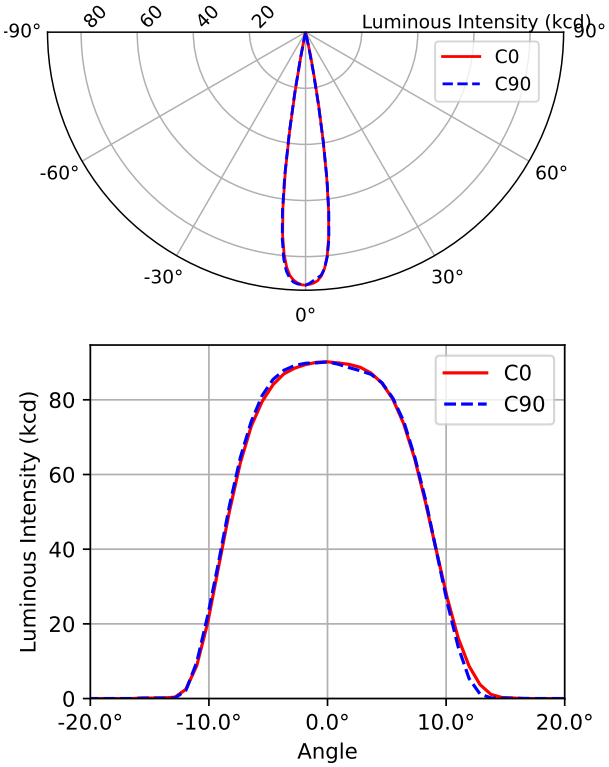


Figure 2: Iso-illuminance diagram of projected beam. Narrow, RGBL
dist. from origin = throw dist. × throw dist. multiplier

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

		Projection Distance [m]								
Parameter	Factor	5	7.5	10	12.5	15	17.5	20	22.5	25
Diameter [m]	0.064	0.32	0.48	0.64	0.80	0.96	1.1	1.3	1.4	1.6
Illuminance [lx]	1.05M	42k	19k	10k	6.7k	4.7k	3.4k	2.6k	2.1k	1.7k

1.2 Medium, RGBL Beam



Type B measurement, 1296 data points.

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

		C0	C90
Beam Angle	50 %	17°	17°
Field Angle	10 %	23°	23°
Cutoff Angle	3 %	25°	24°

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

		Flux (lm)
Half-Peak Output	@50 %	5310
Tenth-Peak Output	@10 %	6810
Total Lumen Output	@3 %	6940

$$\text{diameter} = 0.31 \times \text{distance}$$

$$\text{illuminance} = \frac{90\,200\,\text{lx}}{(\text{distance [m]})^2}$$

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

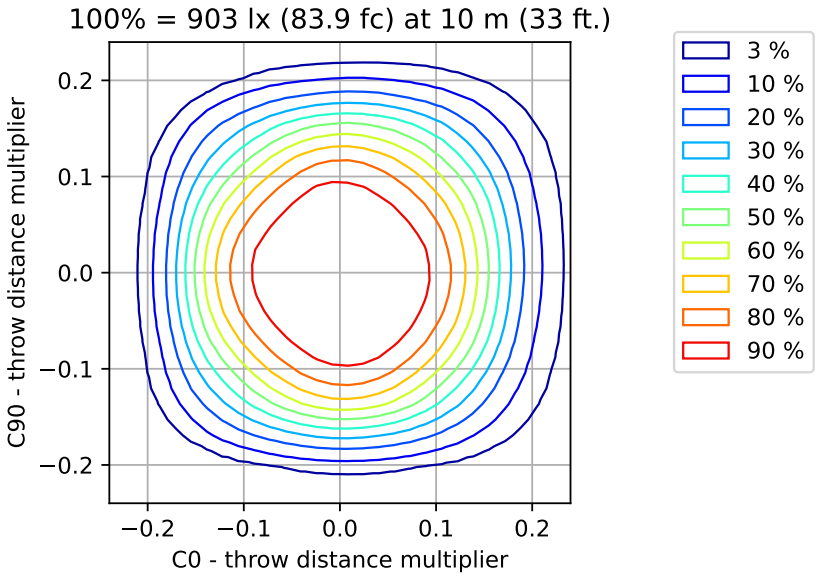
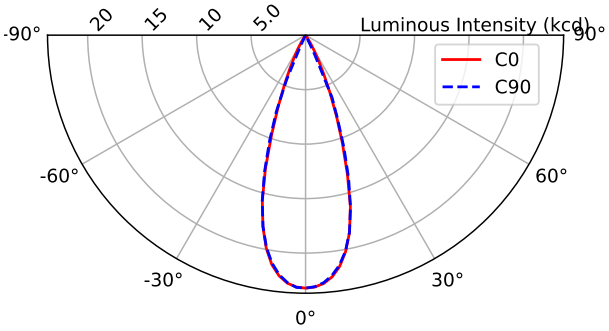


Figure 4: Iso-illuminance diagram of projected beam. Medium, RGBL
dist. from origin = throw dist. × throw dist. multiplier

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

		Projection Distance [m]								
Parameter	Factor	5	7.5	10	12.5	15	17.5	20	22.5	25
Diameter [m]	0.31	1.5	2.3	3.1	3.8	4.6	5.4	6.1	6.9	7.7
Illuminance [lx]	90.2k	3.6k	1.6k	900	580	400	290	230	180	140

1.3 Wide, RGBL Beam



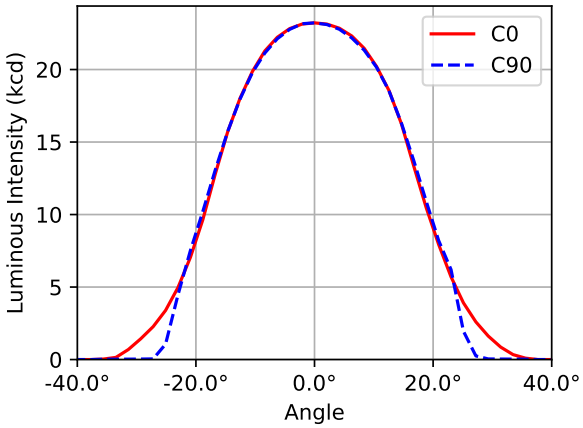


Figure 5: Polar and cartesian light intensity distributions. Wide, RGBL

Type B measurement, 1296 data points.

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

		C0	C90
Beam Angle	50 %	36°	36°
Field Angle	10 %	55°	49°
Cutoff Angle	3 %	63°	53°

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

		Flux (lm)
Half-Peak Output	@50 %	5410
Tenth-Peak Output	@10 %	7590
Total Lumen Output	@3 %	7820

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

$$\text{illuminance} = \frac{23\,200\,\text{lx}}{(\text{distance [m]})^2}$$

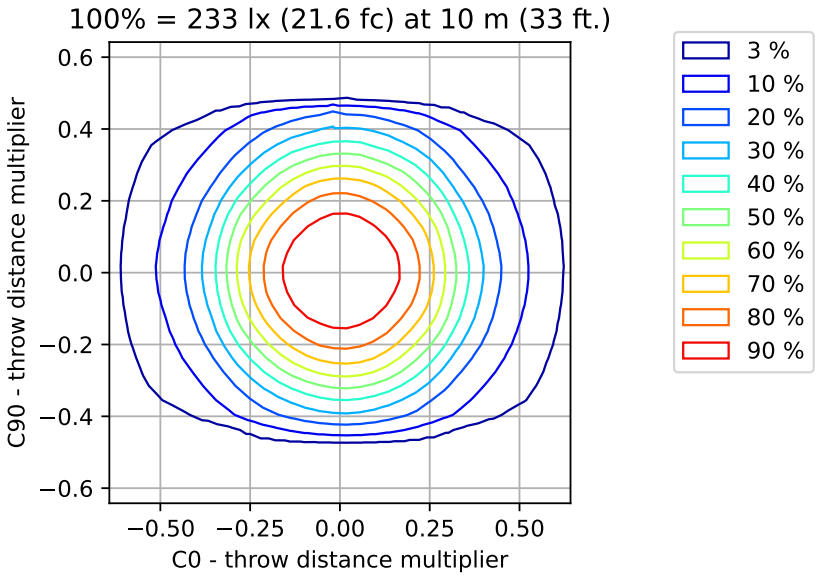


Figure 6: Iso-illuminance diagram of projected beam. Wide, RGBL
dist. from origin = throw dist. × throw dist. multiplier

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

		Projection Distance [m]								
Parameter	Factor	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]	23.2k	930	410	230	150	100	76	58	46	37