



PHOTOMETRIC LIGHT REPORT

**Wall light | 251*167mm |
7W | IP65 | 2700-3000K |
PIR Sensor**

Article number: 136-241



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TRONIX



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Introduction

Purpose of this Document

This document provides accurate and objective photometric data for Tronix Lighting item 136-241. All information is based on actual measurements taken from standard production units. No modifications were made to enhance performance results. In some cases, minor adjustments—such as temporary removal of covers, cables, or mounting features—were necessary for testing purposes. These did not influence product performance.

Test Methodology

Testing was conducted using randomly selected, unopened samples from regular inventory. All tests comply with the LM-79-19 standard, the recognized method for photometric and electrical measurements of LED and OLED luminaires. This standard, an update of IES LM-79-2008, outlines environmental test conditions, stabilization procedures, measurement methods, and approved instruments. It uses absolute photometry, meaning results directly reflect the performance of the tested product, without comparison to rated lamp standards.

Product 136-241 was tested using:

- A photogoniometer to measure luminous intensity distribution at various angles
- An integrating sphere to determine total luminous flux and colour characteristics

Compliance & Certification

Item 136-241 meets the requirements of the following EU directives. Tronix Lighting certifies that all relevant tests were executed in accordance with the applicable standards, and the CE mark is applied accordingly:

- General Product Safety – Directive 2023/988/EC
- Low Voltage Directive (LVD) – Directive 2014/35/EU
- Electromagnetic Compatibility (EMC) – Directive 2004/108/EC
- Ecodesign – Directive 2009/125/EC
- RoHS 3 – Directive 2011/65/EU + Amendment 2015/863/EU

Recycling & Sustainability

Tronix Lighting is affiliated with national recycling systems for electrical and electronic waste. The luminaire is over 90% recyclable when disposed of as electronic waste at end of life. In addition, Tronix Lighting participates in national packaging recycling schemes, ensuring full compliance with both the WEEE and packaging directives.



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Laboratory and equipment

Laboratory owner and location	Tronix Lighting BV. Uden. The Netherlands
Gonio spectrometer system and type	Viso Systems Type C. horizontal
Spectrometer manufacturer and model	(Gonio) Ocean Optics STS VIS (Sphere) Admesy HERA VIS 380–780nm
Flicker meter manufacturer and model	Viso Systems LabFlicker
Oscilloscope manufacturer and model	Tektronix MDO3024 oscilloscope (4 Channels. 200 MHz)
Power meter manufacturer and model	Vitretek PA900 Precision Multi-Channel Harmonic Power Analyzer
Power source manufacturer and model	(DC) Keithley Source Measure Unit SMU-2420 3A DC Source Meter (AC) Chroma 61601 AC Source
Datalogger Manufacturer and Model	Omega 8-Channel Thermocouple Thermometer/Data Logger

Measurement conditions gonio spectrometer

Number of C-planes and Resolution	8 planes – 45°
γ (gamma)-Resolution	1°
Test Distance	1.81 m
Room Temperature and Humidity	22°C +/- 10% – RH 50% +/- 20%
Input Power. Power and Displacement Factors	6.9 W – PF 0.87 – DPF 0.92
Frequency of Input Power	50 Hz
Warm-up Time and Variation	Lamp stabilized in 15 min 4 sec --0.4%

Tested light source

Manufacturer and Order Code	Tronix Lighting – 136-241
Product Description	Wall light 251*167mm 7W IP65 2700-3000K PIR Sensor

Main Light Measurement Results

Output – Total Lumen (Up% / Down%)	726 lm – 4.33% / 95.67%
Efficiency	105 lm/W
Energy efficiency class	F
Peak Intensity and Beam Angle	212 cd – 120.3°
Correlated Colour Temperature	CCT = 2944 K
Colour Shift. CIE duv	Duv -0.0033
Colour Rendering Index	CRI 85.7
Colour Rendering TM30-18	R _f 85.8 – R _g 98.4
Television Lighting Consistency Index	TLCI = 74
Flicker	SVM 0.01 – PstLM 0.23



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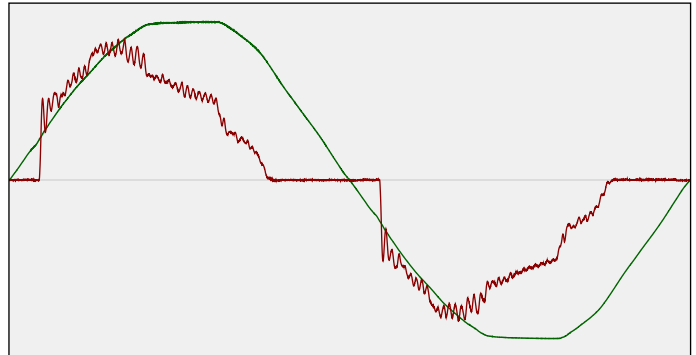
Electrical measurement details

Input Power

RMS Input voltage feed. V_{RMS}	230 V
RMS Input current feed. I_{RMS}	0.035 A
Total input power	6.9 W
Frequency of input power	50 Hz
Power factor	0.87
Displacement power factor	0.92
Total harmonic distortion of the current	32.68%
Total harmonic distortion of the voltage	2.72%

Input Power Curve

Voltage - Current



Efficiency

Radiated power efficiency: 33.2%



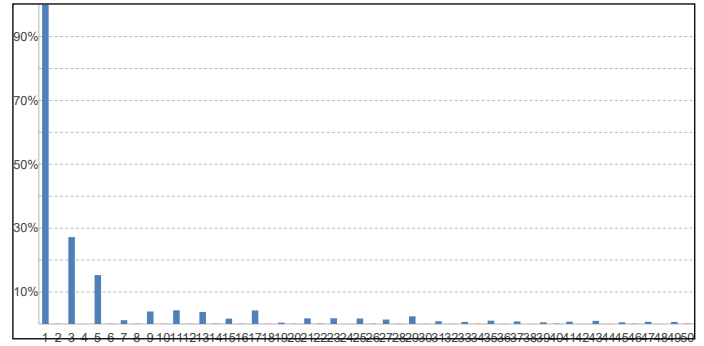
Lumen efficiency: 105 lm/W



Harmonics

3rd Harmonic	27.22%
5th Harmonic	15.3%
7th Harmonic	1.2%
9th Harmonic	3.92%
11th Harmonic	4.29%

Current Harmonics %



Stabilization Details

Warm-up Conditions

Stable period	15 min
Stable change max	2.0%
Minimum warm-up time	15 min

Colour temperature change during warm-up

CCT start	2943 K
CCT shift	+1 K
CCT end	2944 K

Warm-up Results

Total warmup time	Lamp stabilized in 15 min 4 sec
Warmup variation	-0.4%

Output intensity change during warm-up

Output start	728 lm
Output change	-2 lm
Output end	726 lm



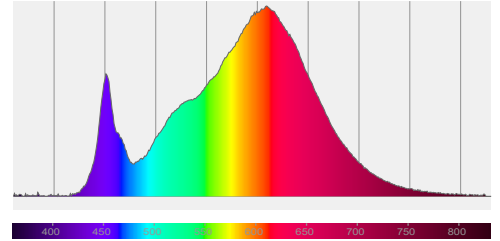
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Colour measurement details

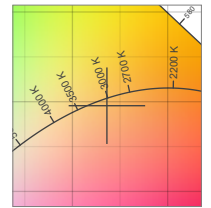
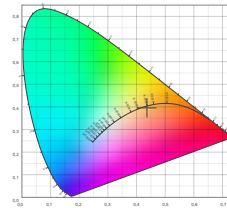
Total lumen output 726 lm
 Correlated Colour Temperature 2944 K
 Colour coordinates CIE 1931 (x,y) = (0.436;0.396)
 Colour deviation from BBL Duv = -0.0033

TM30-18 Colour Fidelity Index R_f 85.8
 TM30-18 Colour Gamut Index R_g 98.4
 Colour Rendering Index (Ra) CRI 85.7
 Colour Rendering Index. (red component) R9 = 22.7

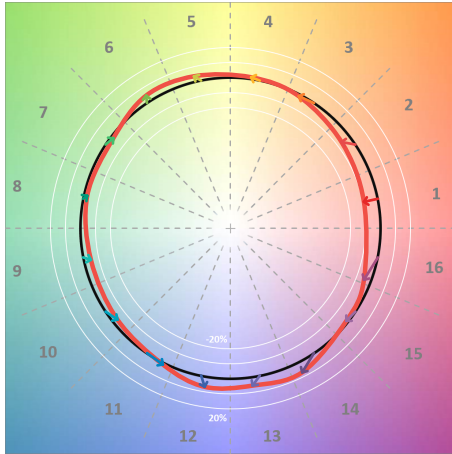
Colour Quality Scale CQS = 83.4
 Television Lighting Consistency Index TLCI = 74



Relative spectral power distribution



TM30 details

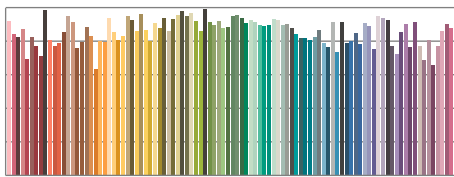


TM30 Colour vectors per hue bin

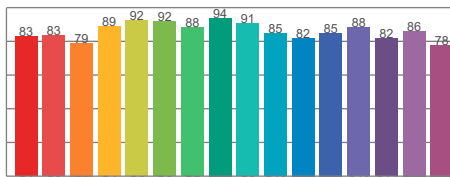


TM30 Colour distortion

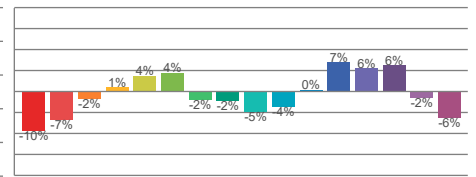
Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
C1	83	-10%	0%
C2	83	-7%	7%
C3	79	-2%	11%
C4	89	1%	6%
C5	92	4%	4%
C6	92	4%	-2%
C7	88	-2%	-6%
C8	94	-2%	-2%
C9	91	-5%	3%
C10	85	-4%	9%
C11	82	0%	13%
C12	85	7%	4%
C13	88	6%	-6%
C14	82	6%	-14%
C15	86	-2%	-8%
C16	78	-6%	-16%



TM30-18 R_f-values per reference colour

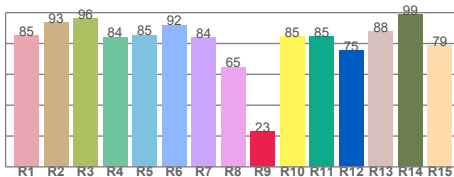


TM30-18 R_f-values per hue bin

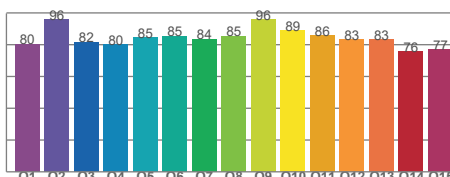


TM30 Chroma shift

Colour Quality details



Colour Rendering Index



Colour Quality Scale

Document revision date: 1-7-2025 Measurement serial: VFR-250325-4846-MS



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Flicker / temporal light artefacts details

Measurement conditions

Flicker meter type	Viso Systems LabFlicker
Flicker/TLA sample rate	20000 samples/s
Measurement time	5x 180 seconds (15 minutes) for PstLM. 1.2 sec for all other indices

Flicker indices according to Illuminating Engineering Society (IES)

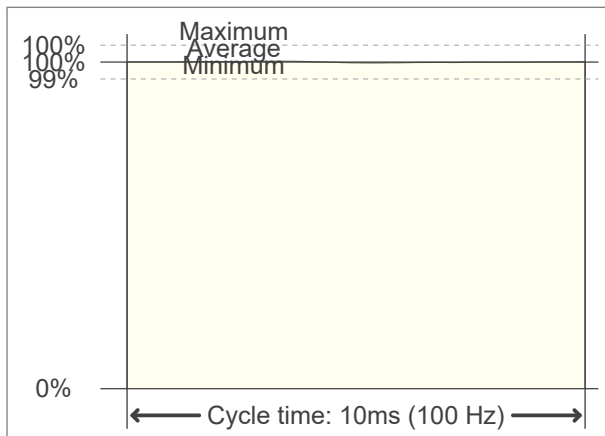
Flicker frequency	100 Hz
Percent flicker	0.41 %
Flicker index	0

TLA indices (according IEC TR 61547-1. EN 61000-3-3 and EN 61000-4-15)

An LED luminaire is considered flicker-free if the SVM value is ≤ 0.4 and if the PstLM value is ≤ 1.0

PstLM value (F < 80 Hz)	0.23
SVM value (80 < F < 2000 Hz)	0.01

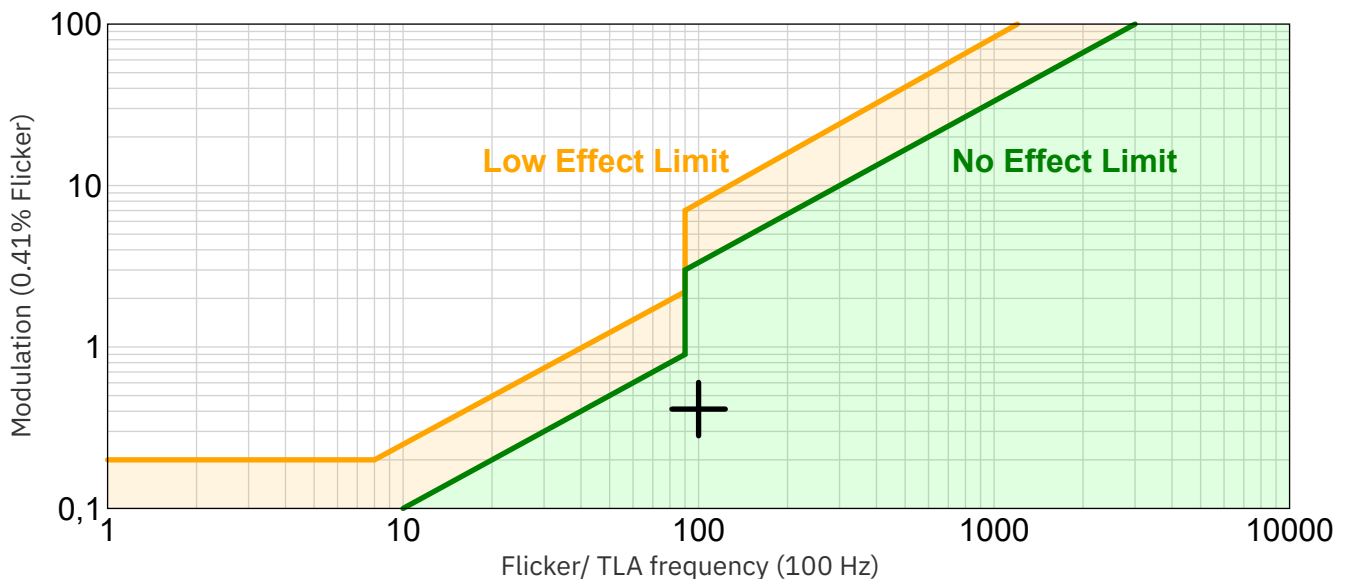
Flicker frame (one flicker period in time domain)



Flicker FFT (flicker curve in frequency domain)



IEEE 1789-2015 Lighting Flicker Risk Zones



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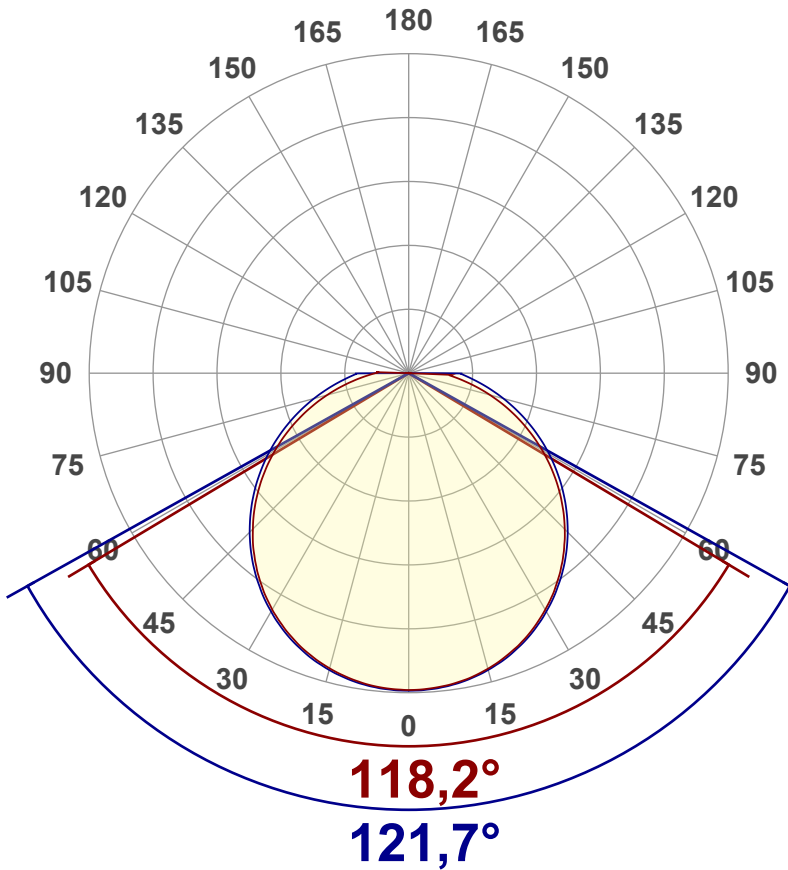


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Beam angle

Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

Output (total Lumen)	726 lm
Lumen Up/Down	4.33% / 95.67%
Peak Intensity	212 cd
Beam Angle (50%)	120.3°
Beam Angle (90%)	121.7°
Beam Angle (10%)	118.2°

Cut-off Angle

Average 2.5%	233.1°
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Field Angle

Average 10%	179.2°
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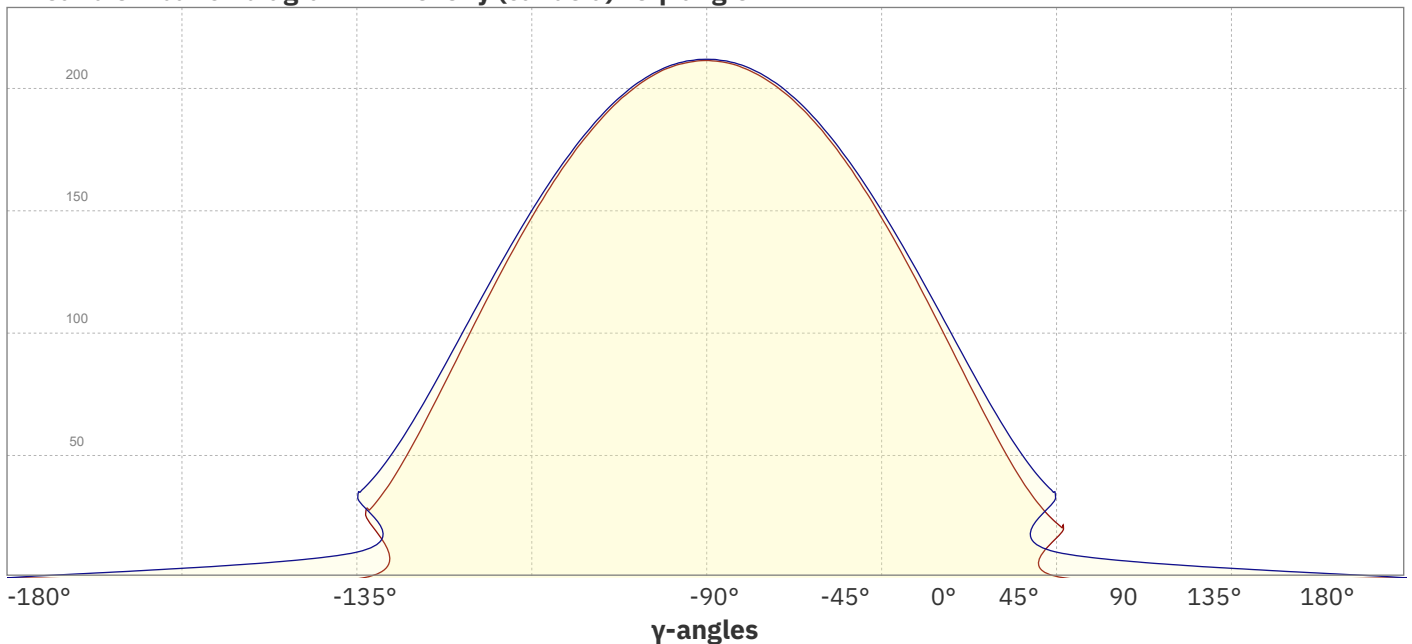
Intensity Ratio

In 120° cone	68.5%
In 90° cone	45.7%

C planes

- C000-C180
- C090-C270

Linear distribution diagram - Intensity (candela) vs γ-angle

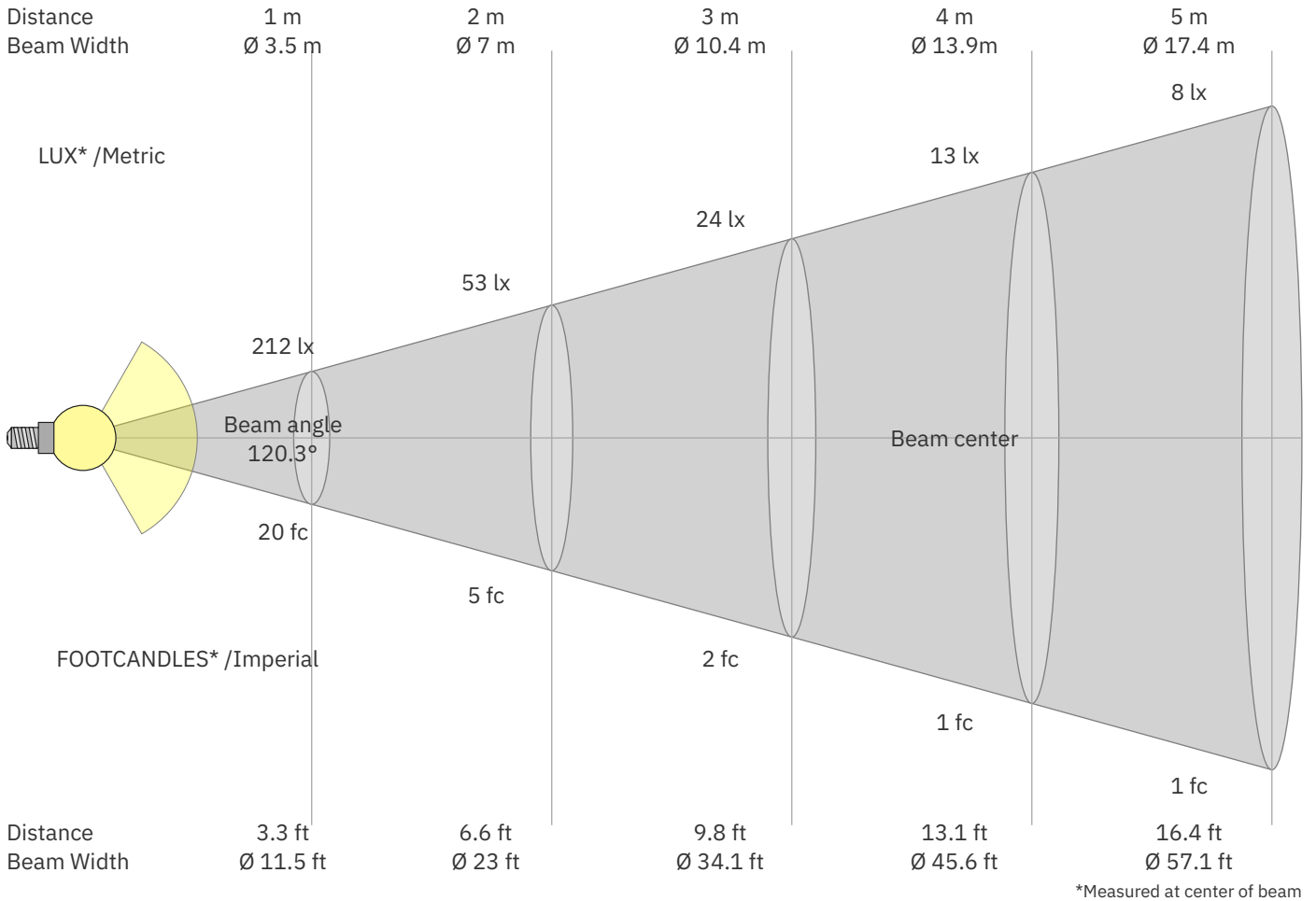


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Beam Details



Beam intensities from 1 – 20 m

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	m	
3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6	ft	
212	53	24	13	8	6	4	3	3	2	2	1	1	1	1	1	1	1	1	1	lux	
19.7	4.9	2.2	1.2	0.8	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	fc

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
212	211	208	204	198	191	182	172	160	147	133	118	103	87	71	56	42	31	0	0	cd
100%	99%	98%	96%	94%	90%	86%	81%	76%	70%	63%	56%	49%	41%	34%	27%	20%	15%	0%	0%	of 0°val

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
212	211	209	205	200	192	184	174	162	150	137	123	108	94	79	66	53	42	11	10	cd
100%	100%	99%	97%	94%	91%	87%	82%	77%	71%	65%	58%	51%	44%	37%	31%	25%	20%	5%	5%	of 0°val

Intensities in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
212	211	208	204	198	191	182	172	160	147	133	118	103	87	72	56	43	31	22	0	cd
100%	99%	98%	96%	94%	90%	86%	81%	76%	69%	63%	56%	49%	41%	34%	27%	20%	15%	11%	0%	of 0°val

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
212	211	209	205	200	192	184	174	162	150	137	123	108	94	79	66	53	42	11	10	cd
100%	100%	99%	97%	94%	91%	87%	82%	77%	71%	65%	58%	51%	44%	37%	31%	25%	20%	5%	5%	of 0°val

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