



PHOTOMETRIC LIGHT REPORT

**LED strip CC | COB |
7.5W/m | 50m | IP20 |
2700K**

Article number: 127-210



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Lighting



TRONIX

127-210 LED strip CC | COB | 7.5W/m | 50m | IP20 | 2700K

Introduction

Purpose of this Document

This document provides accurate and objective photometric data for Tronix Lighting item 127-210. 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 127-210 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 127-210 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.

127-210 LED strip CC | COB | 7.5W/m | 50m | IP20 | 2700K

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	2 planes – 180°
γ (gamma)-Resolution	2.5°
Test Distance	0.66 m
Room Temperature and Humidity	22°C +/- 10% – RH 50% +/- 20%
Input Power. Power and Displacement Factors	6.2 W – PF 1.0 – DPF 0.0
Frequency of Input Power	0 Hz
Warm-up Time and Variation	Not completed --0.4%

Tested light source

Manufacturer and Order Code	Tronix Lighting – 127-210
Product Description	LED strip CC COB 7.5W/m 50m IP20 2700K

Main Light Measurement Results

Output – Total Lumen (Up% / Down%)	645 lm – 2.94% / 97.06%
Efficiency	103 lm/W
Energy efficiency class	F
Peak Intensity and Beam Angle	150 cd – 158.4°
Correlated Colour Temperature	CCT = 2988 K
Colour Shift. CIE duv	Duv -0.0017
Colour Rendering Index	CRI 91.8
Colour Rendering TM30-18	R _f 90.1 – R _g 100.3
Television Lighting Consistency Index	TLCI = 83
Flicker	SVM n/a – PstLM n/a

127-210 LED strip CC | COB | 7.5W/m | 50m | IP20 | 2700K

Electrical measurement details

Input Power

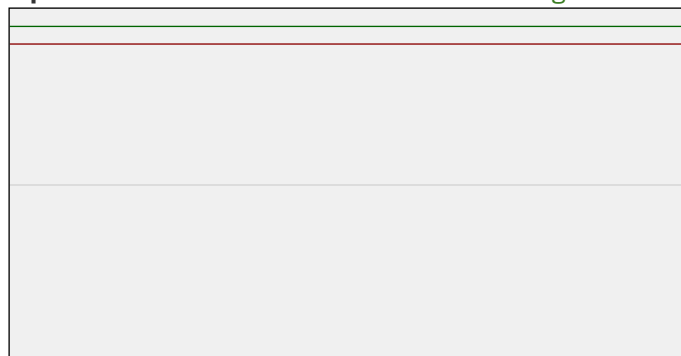
RMS Input voltage feed. V_{RMS} 24.0 V
 RMS Input current feed. I_{RMS} 0.260 A
 Total input power 6.2 W

Frequency of input power 0 Hz
 Power factor 1.0
 Displacement power factor 0.0

Total harmonic distortion of the current 0%
 Total harmonic distortion of the voltage 0%

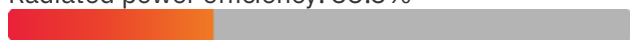
Input Power Curve

Voltage - Current

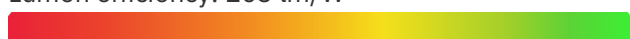


Efficiency

Radiated power efficiency: 33.3%



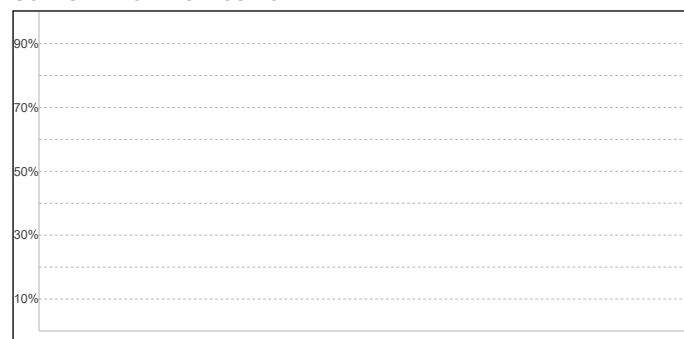
Lumen efficiency: 103 lm/W



Harmonics

3rd Harmonic n/a
 5th Harmonic n/a
 7th Harmonic n/a
 9th Harmonic n/a
 11th Harmonic n/a

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 2992 K
 CCT shift -4 K
 CCT end 2988 K

Warm-up Results

Total warmup time Not completed
 Warmup variation -0.4%

Output intensity change during warm-up

Output start 647 lm
 Output change -3 lm
 Output end 645 lm

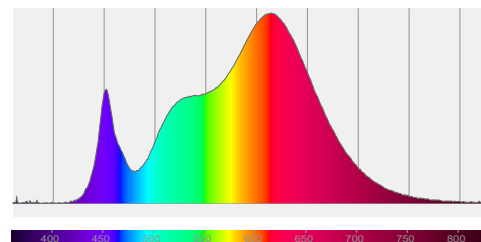
127-210 LED strip CC | COB | 7.5W/m | 50m | IP20 | 2700K

Colour measurement details

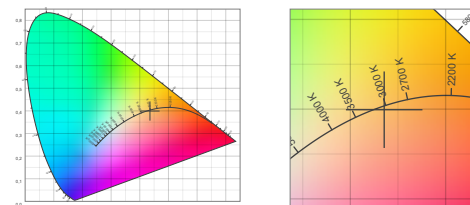
Total lumen output 645 lm
Correlated Colour Temperature 2988 K
Colour coordinates CIE 1931 (x;y) = (0.436;0.399)
Colour deviation from BBL Duv = -0.0017

TM30-18 Colour Fidelity Index R_f 90.1
TM30-18 Colour Gamut Index R_g 100.3
Colour Rendering Index (Ra) CRI 91.8
Colour Rendering Index. (red component) R_9 = 45.2

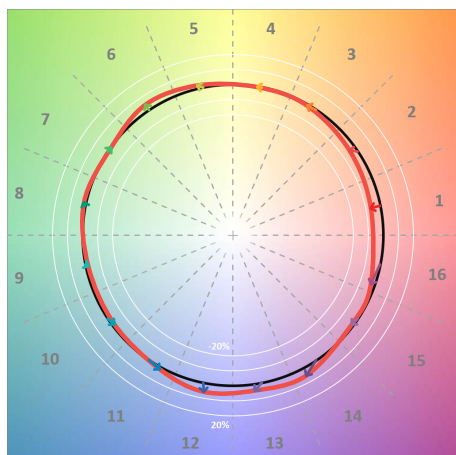
Colour Quality Scale CQS = 89.0
Television Lighting Consistency Index TLCI = 83



Relative spectral power distribution



TM30 details

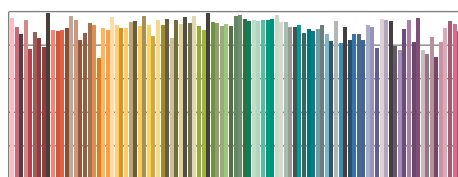


TM30 Colour vectors per hue bin

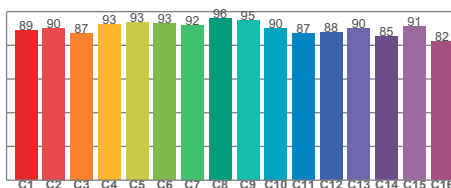


TM30 Colour distortion

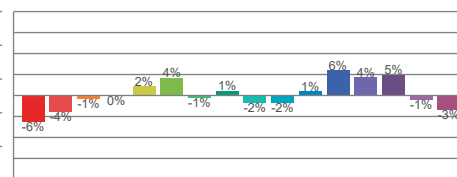
Hue Bin	R_f	Shifts (%)	
		Chroma	Hue
C1	89	-6%	0%
C2	90	-4%	4%
C3	87	-1%	7%
C4	93	0%	3%
C5	93	2%	4%
C6	93	4%	0%
C7	92	-1%	-3%
C8	96	1%	-2%
C9	95	-2%	1%
C10	90	-2%	6%
C11	87	1%	9%
C12	88	6%	2%
C13	90	4%	-6%
C14	85	5%	-11%
C15	91	-1%	-5%
C16	82	-3%	-14%



TM30-18 R_f -values per reference colour

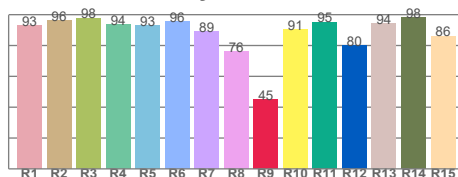


TM30-18 R_f -values per hue bin

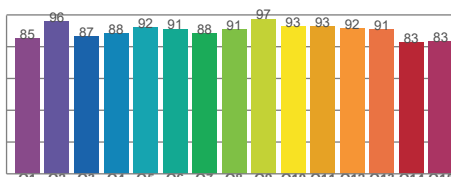


TM30 Chroma shift

Colour Quality details



Colour Rendering Index



Colour Quality Scale

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Flicker / temporal light artefacts details

Measurement conditions

Flicker meter type	Viso Systems LabFlicker
Flicker/TLA sample rate	n/a 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)

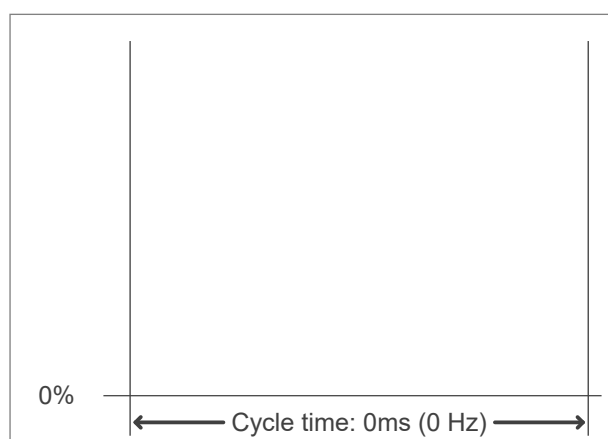
Flicker frequency	n/a Hz
Percent flicker	n/a %
Flicker index	n/a

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

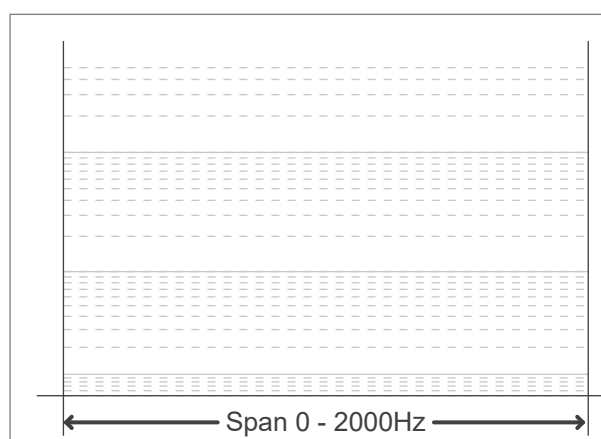
An LED luminaire is considered flicker-free if the SVM value is ≤ 0.4 and if the PstLM value is ≤ 1.0

PstLM value ($F < 80$ Hz)	n/a
SVM value ($80 < F < 2000$ Hz)	n/a

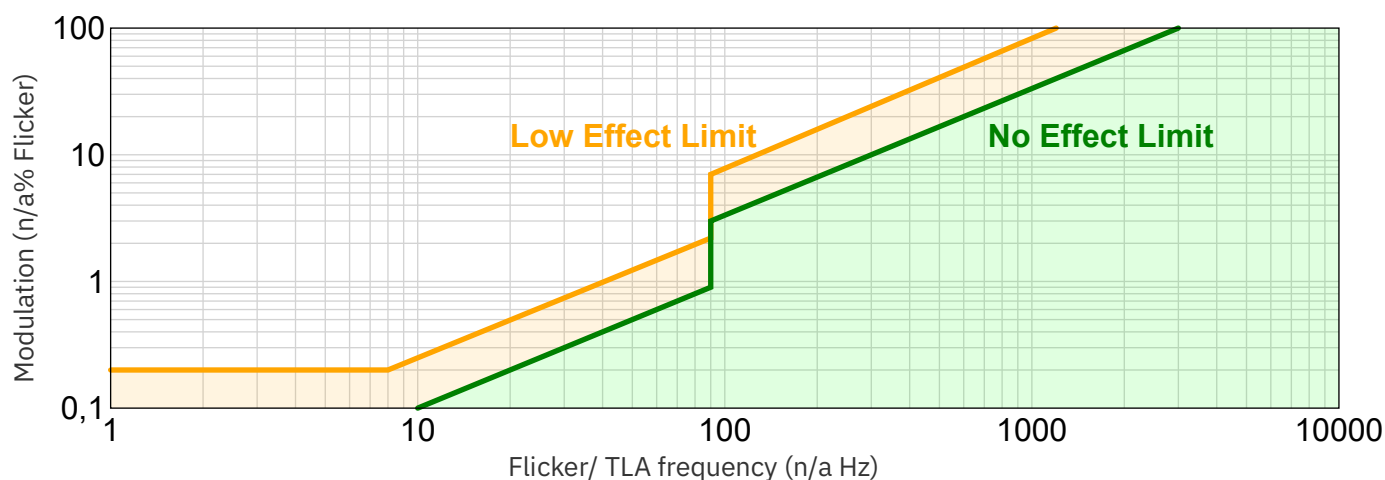
Flicker frame (one flicker period in time domain)



Flicker FFT (flicker curve in frequency domain)



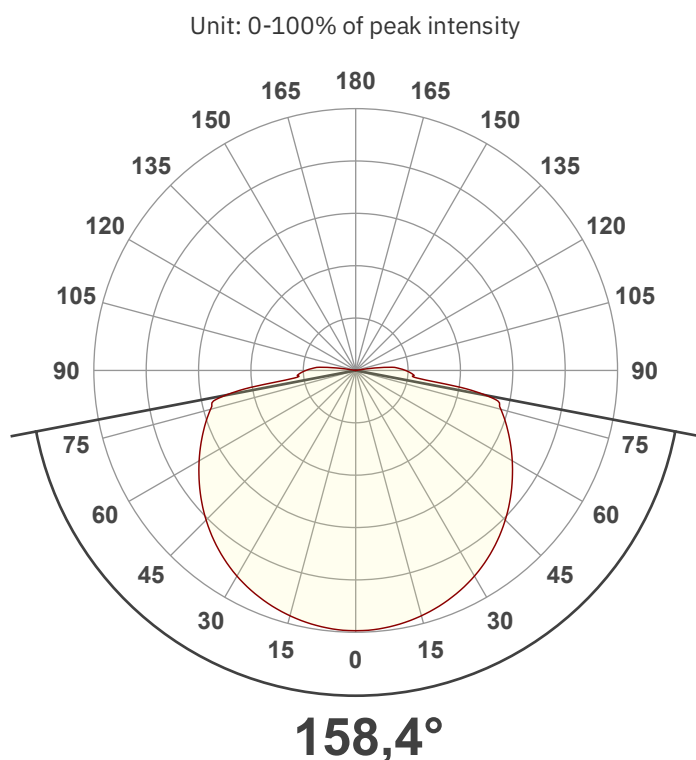
IEEE 1789-2015 Lighting Flicker Risk Zones



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Beam angle

Luminous Intensity diagram



Main Values

Output (total Lumen)	645 lm
Lumen Up/Down	2.94% / 97.06%
Peak Intensity	150 cd
Beam Angle (50%)	158.4°
Beam Angle (90%)	158.4°
Beam Angle (10%)	158.4°

Cut-off Angle

Average 2.5%	197.1°
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Field Angle

Average 10%	192.9°
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Intensity Ratio

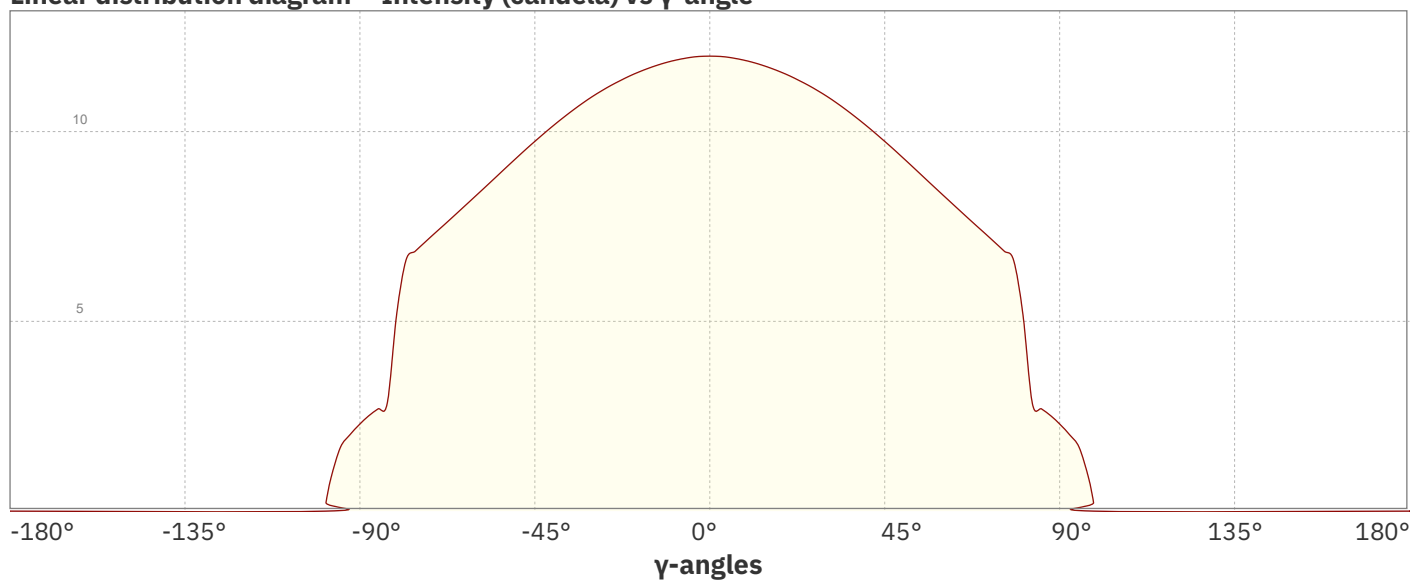
In 120° cone	61.4%
In 90° cone	38.7%

C planes

C000-C180

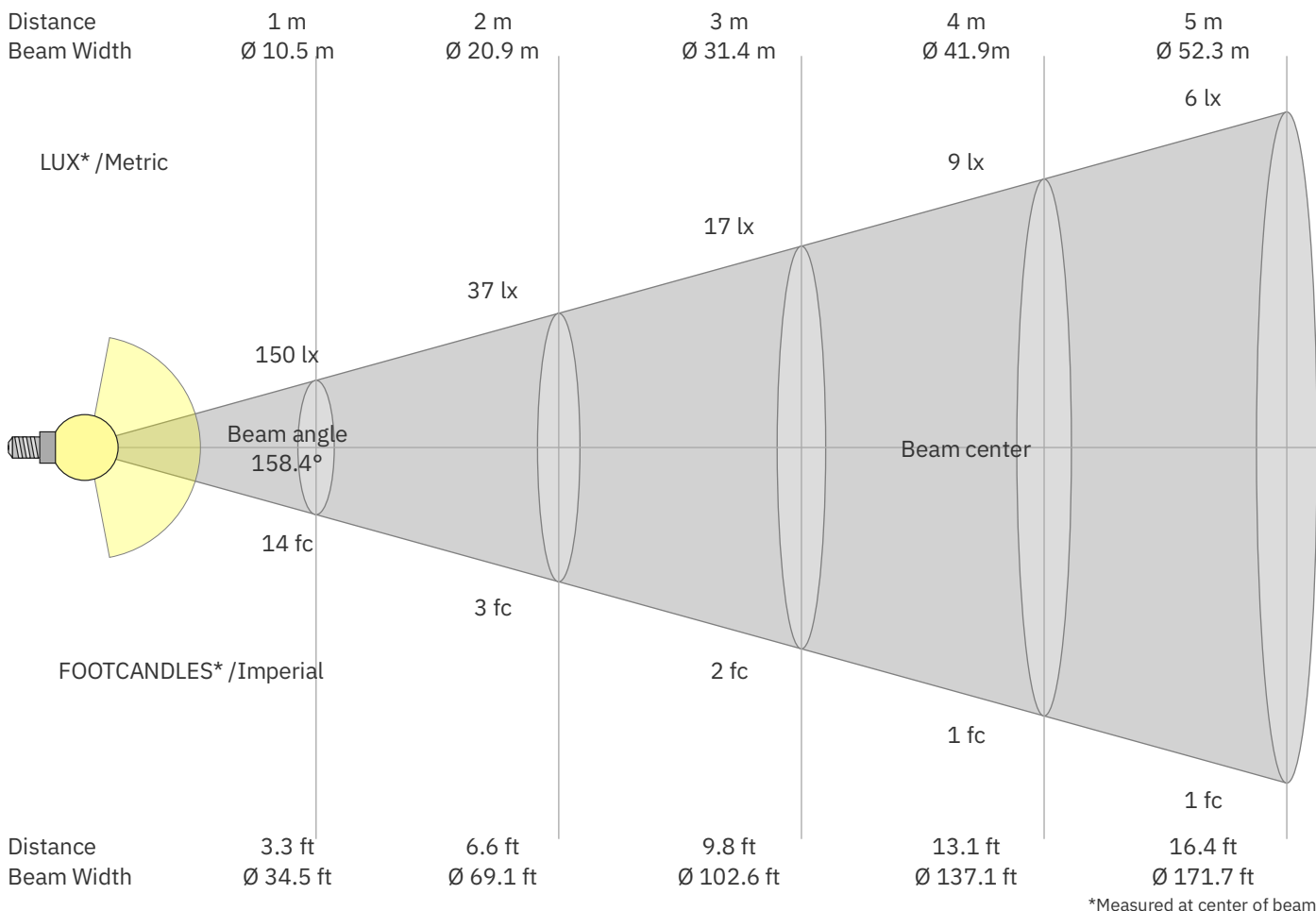
C090-C270

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
150	37	17	9	6	4	3	2	2	1	1	1	1	1	1	1	1	0	0	0	lux
13.9	3.5	1.5	0.9	0.6	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	fc

Intensities in 0° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°	γ
150	148	145	139	131	122	111	101	90	59	29	0	0	0	0	0	0	0	0	0	cd
100%	99%	97%	93%	88%	81%	74%	67%	60%	40%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	of 0°val

Intensities in 90° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°	γ
150	148	145	139	131	122	111	101	90	59	29	0	0	0	0	0	0	0	0	0	cd
100%	99%	97%	93%	88%	81%	74%	67%	60%	40%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	of 0°val

Intensities in 180° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°	γ
150	148	145	139	131	122	111	101	90	59	29	0	0	0	0	0	0	0	0	0	cd
100%	99%	97%	93%	88%	81%	74%	67%	60%	40%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	of 0°val

Intensities in 270° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°	γ
150	148	145	139	131	122	111	101	90	59	29	0	0	0	0	0	0	0	0	0	cd
100%	99%	97%	93%	88%	81%	74%	67%	60%	40%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	of 0°val



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Light Planning – UGR table

Uncorrected, comprehensive UGR table according to CIE 117-1995

Reflectances		70	70	50	50	30	70	70	50	50	30
ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size		Viewed Crosswise					Viewed Endwise				
H = mounting height above eye level		(Viewing direction orthogonal to lamp length axis)					(Viewing direction parallel to lamp length axis)				
X	Y										
2H	2H	22.5	24.0	22.8	24.3	24.5	24.6	26.0	24.9	26.4	26.6
	3H	24.5	26.0	24.9	26.3	26.5	27.2	28.7	27.7	29.0	29.2
	4H	25.5	26.9	25.9	27.2	27.5	28.8	30.2	29.2	30.5	30.7
	6H	26.5	27.8	26.8	28.0	28.4	30.3	31.6	30.6	31.9	32.2
	8H	26.7	27.9	27.0	28.2	28.6	30.7	31.9	31.1	32.2	32.7
	12H	26.7	28.0	27.1	28.3	28.7	31.0	32.2	31.4	32.5	33.0
4H	2H	23.5	24.9	23.9	25.2	25.5	25.0	26.5	25.5	26.7	27.0
	3H	25.7	27.0	26.1	27.3	27.8	27.9	29.2	28.3	29.5	30.0
	4H	26.8	28.0	27.3	28.4	28.9	29.5	30.6	30.0	31.0	31.6
	6H	27.8	28.9	28.3	29.3	29.7	31.1	32.1	31.6	32.5	32.9
	8H	28.1	29.0	28.6	29.4	29.8	31.5	32.5	32.0	32.9	33.3
	12H	28.2	29.0	28.7	29.5	29.9	31.9	32.7	32.4	33.1	33.6
8H	4H	27.5	28.5	28.0	28.8	29.2	29.8	30.7	30.3	31.1	31.5
	6H	28.6	29.4	29.1	29.9	30.4	31.4	32.2	32.0	32.7	33.3
	8H	28.9	29.6	29.4	30.1	30.8	31.9	32.6	32.5	33.2	33.8
	12H	29.1	29.7	29.7	30.2	30.8	32.4	33.0	32.9	33.5	34.1
12H	4H	27.6	28.4	28.1	28.9	29.4	29.8	30.6	30.3	31.0	31.5
	6H	28.8	29.5	29.3	30.0	30.7	31.5	32.2	32.0	32.7	33.4
	8H	29.1	29.7	29.7	30.2	30.8	32.0	32.6	32.6	33.1	33.7
Variations with the observer position for the luminaire spacings. S:											
S = 1.0H		0.1 / -0.1					0.1 / -0.1				
S = 1.5H		0.1 / -0.1					0.3 / -0.3				
S = 2.0H		0.2 / -0.3					0.6 / -0.6				

Coefficients of Utilization

Ceiling reflectance	80			70			50			30			10			0		
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio)																	
	Room Values are expressed as percentage of Lumen delivered to the task surface																	
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	105	98	93	88	101	96	91	86	91	86	83	86	83	79	82	79	77	74
2	93	83	75	68	90	81	73	67	77	70	65	73	67	63	69	65	61	58
3	84	71	62	54	81	70	61	53	66	58	52	63	56	51	60	54	49	47
4	76	62	52	45	73	61	51	44	58	50	43	55	48	42	52	46	41	39
5	70	55	45	38	67	54	44	37	51	43	37	49	42	36	47	40	35	33
6	64	49	39	32	62	48	39	32	46	38	31	44	37	31	42	35	30	28
7	59	44	35	28	57	43	34	28	42	33	27	40	32	27	38	32	27	24
8	55	40	31	25	53	39	31	25	38	30	24	36	29	24	35	28	24	22
9	51	37	28	22	50	36	28	22	35	27	22	33	26	21	32	26	21	19
10	48	34	26	20	46	33	25	20	32	25	20	31	24	19	30	24	19	17