Varien™ 8 Dim-to-Warm LED Tape Light

Actual size shown

Alloy LED is at the forefront of dim-to-warm LED technology. Featuring an intelligent circuit, Varien Dim-to-Warm Tape automatically changes Kelvin temp. from 3000K to 1800K when used with Lutron® LED+ dimmers, giving you a more neutral white light while you work and a warm candlelight while you relax.

- The light warms as it is dimmed
- Use with PowerFactor Dimmable Drivers or Primavolt® No Minimum Load Dimmable Drivers
- Compatible with Lutron® LED+ dimmers
- No batteries, remote controllers, or receivers required
- Intelligent circuit eliminates the need for an excess of accessories for a simple setup

TECHNICAL INFORMATION

Stocked Color Temperature	1800K~3000K
Power Consumption Per Foot	8 Watts/333.33mA
Input Voltage	24V DC
Diodes per foot	51
Diode Spacing	0.47 inches
Tape Height	0.07 inches
Beam Angle	120°
Field Cuttable (UL 2108)	Every 3.28 inches
Max Run Length	12 ft.
Dimmable	Yes

Diode Type	2835 Epistar
Mounting	3M™ Self-Adhesive Tape (Non-porous)
Operating Temperature	-13° F to 140° F
Ambient Temperature	-40° F to 176° F
Environment	Indoor, Dry
Spool Lengths*	12 ft.
Certifications	UL Listed, UL 2108, CE, RoHS
Warranty	6 Year Limited

*Each spool includes 36 in., CL2 rated 20 AWG tinned lead wires at both ends of the tape light.

PRODUCT INFORMATION

12 ft. spool Item Number	Voltage	Color Temperature	CRI	R9 Values	R13 Values	Lumens / foot (Max Output)
AL-01-82-2401	24V DC	1800K~3000K	97	96.1	96.8	697

VOLTAGE DROP GUIDANCE CHART

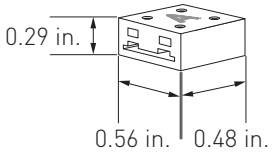
Standard Non-XT 24V Voltage Drop & Wire Length Distance Chart (3% Drop or 24V)

Wire Gauge	Copper Wire Resistance (O/kFT)	10W (0.42A)	20W (0.83A)	30W (1.25A)	40W (1.67A)	50W (2.08A)	60W (2.50A)	70W (2.92A)	80W (3.33A)	90W (3.75A)	96W (4A)
22 AWG	16.14	54 ft.	27 ft.	18 ft.	14 ft.	11 ft.	9 ft.	8 ft.	7 ft.	6 ft.	6 ft.
20 AWG	10.15	86 ft.	43 ft.	29 ft.	22 ft.	18 ft.	15 ft.	13 ft.	11 ft.	10 ft.	9 ft.
18 AWG	6.39	136 ft.	68 ft.	46 ft.	34 ft.	28 ft.	23 ft.	20 ft.	17 ft.	16 ft.	15 ft.
16 AWG	4.02	216 ft.	108 ft.	72 ft.	54 ft.	44 ft.	36 ft.	31 ft.	27 ft.	24 ft.	23 ft.
14 AWG	2.53	343 ft.	172 ft.	115 ft.	86 ft.	69 ft.	58 ft.	49 ft.	43 ft.	39 ft.	36 ft.
12 AWG	1.59	545 ft.	273 ft.	182 ft.	137 ft.	109 ft.	91 ft.	78 ft.	69 ft.	61 ft.	57 ft.
10 AWG	0.99	865 ft.	433 ft.	289 ft.	217 ft.	173 ft.	145 ft.	124 ft.	109 ft.	97 ft.	91 ft.

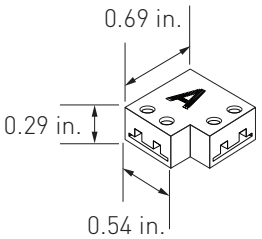
Note: These tables provide general guidelines for determining Wire Gauge based on total load and distance from LED driver to beginning of luminaire.

ACCESSORIES (SOLD SEPARATELY)

AmpChamp: For a more secure connection



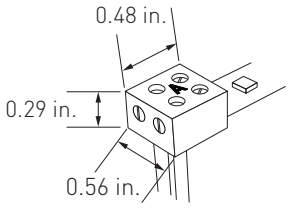
Accepts many combinations of tape and wire. Includes one mounting clip, 3M® adhesive backing, and pre-attached 6 inch in-wall-rated 18 AWG lead wire.



Note: AmpChamp Corner does not include the pre-attached 6 inch in-wall-rated 18 AWG lead wire.

Straight AmpChamp
AL-01-82-9900
AL-01-82-9900-10 (10-pack)
AL-01-82-9900-100 (100-pack)

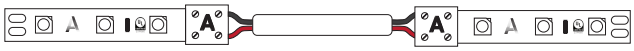
AmpChamp Corner
AL-01-82-9900-L



AmpChamp Up/Down
AL-01-82-9900-UD
AL-01-82-9900-UD-10 (10-pack)

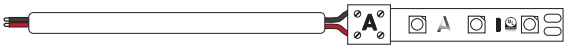
AmpChamp Jumper and Power Feed Kits

AmpChamp Jumper Kit includes two standard AmpChamp Kits and one pre-tinned 18 AWG jumper wire.



AL-01-82-9900-3IN-JK (3 in. jumper wire)
AL-01-82-9900-6IN-JK (6 in. jumper wire)
AL-01-82-9900-36IN-JK (36 in. jumper wire)

AmpChamp Power Feed Kit includes one standard AmpChamp Kit and one pre-tinned 18 AWG power feed wire.

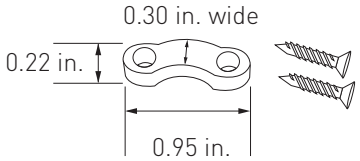


AL-01-82-9900-36IN-PK (36 in. power feed wire)
AL-01-82-9900-8FT-PK (8 ft. power feed wire)

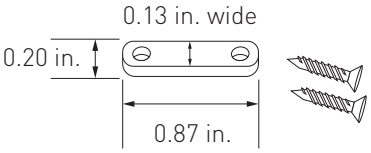
Wire and Tape Light Management

We recommend the use of the wire and tape harness.

- At least 1 wire harness at the beginning to secure the lead wire; for longer lead wires, place a harness every 2 feet
- 1 tape harness every 2 feet and 1 harness at the end of the tape light to secure it



Wire Harness
Holds wire in place securely
AL-01-99-9901-10 (10-pack)

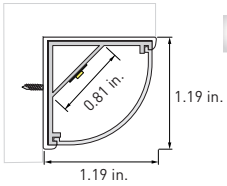


Tape Harness
Provides extra security for tape light, especially at the ends of a run
AL-01-99-9900-10 (10-pack)

COMPATIBLE CHANNELS (Diagrams below not to scale)

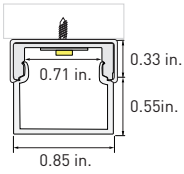
Reduced Hotspot Pairings (Hotspot Rating from 0-5)

Surfa 2X: Corner-Mount



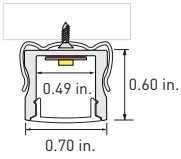
Hotspot Rating: 0
- [x] Solder
- [x] AmpChamp

Surfa 6 Surround: Surface-Mount



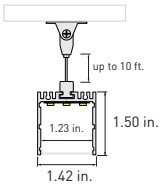
Hotspot Rating: 0
- [x] Solder
- [x] AmpChamp

Surfa 7: Surface-Mount



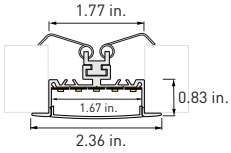
Hotspot Rating: 0
- [x] Solder
- [ ] AmpChamp

Suspan 1: Suspended



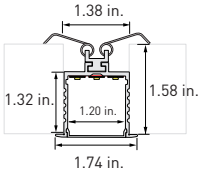
Hotspot Rating: 0
- [x] Solder
- [x] AmpChamp

Ankr 1: In-Wall



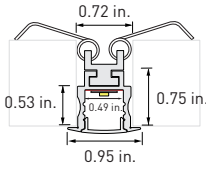
Hotspot Rating: 1
- [x] Solder
- [x] AmpChamp

Ankr 2: In-Wall



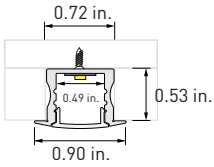
Hotspot Rating: 0
- [x] Solder
- [x] AmpChamp

Ankr 3: In-Wall



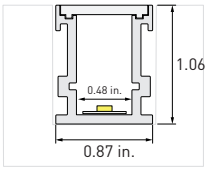
Hotspot Rating: 0
- [x] Solder
- [ ] AmpChamp

Ankr 4: Mud-In



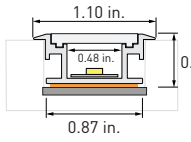
Hotspot Rating: 0
- [x] Solder
- [ ] AmpChamp

Duro 1: In-Ground



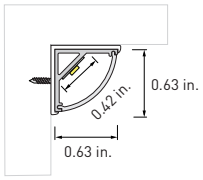
Hotspot Rating: 0
- [x] Solder
- [ ] AmpChamp

Duro 2: In-Ground



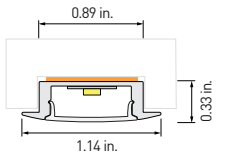
Hotspot Rating: 1
- [x] Solder
- [ ] AmpChamp

Surfa 2: Corner-Mount



Hotspot Rating: 2
- [x] Solder
- [ ] AmpChamp

Naro 4: Recessed

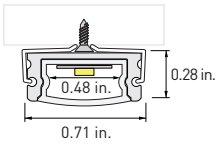


Hotspot Rating: 2
- [x] Solder
- [ ] AmpChamp

COMPATIBLE CHANNELS (Diagrams below not to scale)

Other Compatible Pairings (Hotspot Rating from 0-5)

Surfa 1: Surface-Mount

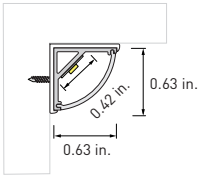


Hotspot ratings depend on dimming percentage

Hotspot Rating: 2-3

- [x] Solder
- [ ] AmpChamp

Surfa 2: Corner-Mount

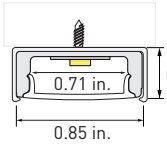


Hotspot ratings depend on dimming percentage

Hotspot Rating: 1-2

- [x] Solder
- [ ] Amp Champ

Surfa 6: Surface-Mount

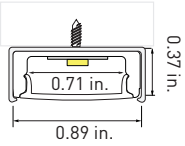


Hotspot ratings depend on dimming percentage

Hotspot Rating: 2-3

- [x] Solder
- [x] AmpChamp

Polymer: Surface-Mount



Hotspot ratings depend on dimming percentage

Hotspot Rating: 2-3

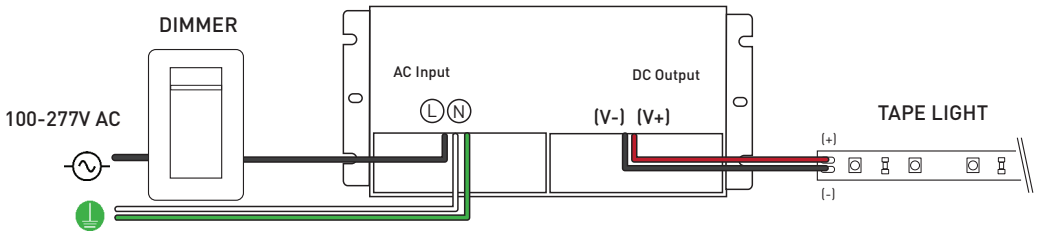
- [x] Solder
- [x] AmpChamp

RECOMMENDED POWER SUPPLIES (SOLD SEPARATELY)

ALLOY'S TOP CHOICE

Alloy LED PowerFactor™ Dimmable Power Supplies w/ Integrated UL Listed Junction Box

Compact, highly efficient, and code-compliant power supply with versatile and smooth dimming capabilities.



Wiring diagram is for reference ONLY. Please refer to dimmer wiring specifications sheet for accurate directions.

99% POWER FACTOR · 120V~277V · UL CERTIFIED CLOSET · PRODUCT 6 YEARS WARRANTY · Title 24 JA8 - 2016 · c UL us LISTED · RoHS

Single Tap Models

Item Number	Output Voltage	Wattage	Wet Location	Minimum Load	Dimensions (L x W x H)	Class 2
AL-98-10-12030	12V DC	30W	Yes (NEMA 4X)	10%	6.50 x 3.72 x 1.02 in.	Yes
AL-98-10-12060	12V DC	60W	Yes (NEMA 4X)	10%	7.40 x 3.72 x 1.02 in.	Yes
AL-98-10-12120	12V DC	120W	Yes (NEMA 4X)	10%	8.66 x 3.72 x 1.57 in.	No
AL-98-10-24030	24V DC	30W	Yes (NEMA 4X)	10%	6.50 x 3.72 x 1.02 in.	Yes
AL-98-10-24060	24V DC	60W	Yes (NEMA 4X)	10%	7.40 x 3.72 x 1.02 in.	Yes
AL-98-10-24096	24V DC	96W	Yes (NEMA 4X)	10%	8.66 x 3.72 x 1.57 in.	Yes
AL-98-10-24150	24V DC	150W	Yes (NEMA 4X)	10%	10.24 x 4.13 x 1.77 in.	No
AL-98-10-24200	24V DC	200W	Yes (NEMA 4X)	10%	10.24 x 4.13 x 1.77 in.	No
AL-98-10-24300	24V DC	300W	Yes (NEMA 4X)	10%	10.94 x 4.33 x 1.77 in.	No

Class 2 Compliant Multi-Tap Models

Item Number	Output Voltage	Wattage	Wet Location	Minimum Load	Dimensions (L x W x H)	Class 2
AL-98-10-12300-MT	12V DC	300W	Yes (NEMA 4X)	10%	11.85 x 4.33 x 1.77 in.	Yes
AL-98-10-24192-MT	24V DC	192W	Yes (NEMA 4X)	10%	10.94 x 4.33 x 1.77 in.	Yes
AL-98-10-24288-MT	24V DC	288W	Yes (NEMA 4X)	10%	11.85 x 4.33 x 1.77 in.	Yes

Note: PowerFactor assumes 80% load.
Inspectors prefer power supply to be used with junction box.
For dimmer compatibility, refer to drivers specification sheet.

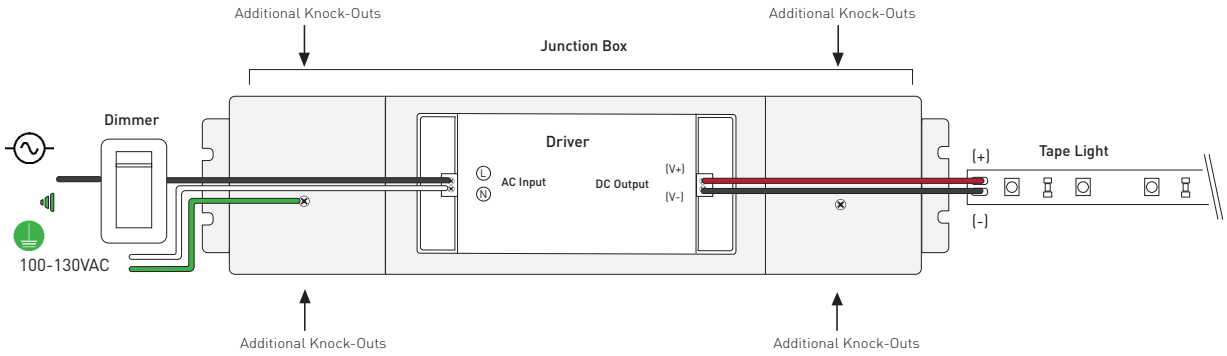
RECOMMENDED POWER SUPPLIES (SOLD SEPARATELY)

Alloy LED Primavolt® No Minimum Load Dimmable Power Supplies w/ETL Listed Junction Box

Code-compliant power supply with versatile and smooth dimming capabilities. Compatible with ELV, MLV, and TRIAC dimmers.

White model for 60W and lower

Black model for 80W and higher



Wiring diagram is for reference ONLY. Please refer to dimmer wiring specifications sheet for accurate directions.

120V IP20 CLASS 2 100% Max. Load 0% Min. Load

Item Number	Output Voltage	Wattage	Minimum Load	Dimensions (Junction box) (L x W x H)	Class 2
AL-98-03-12024-NM	12V DC	24W	0%	13.78 x 3.03 x 1.46 in.	Yes
AL-98-03-12048-NM	12V DC	48W	0%	13.78 x 3.03 x 1.46 in.	Yes
AL-98-03-12060-NM	12V DC	60W	0%	13.78 x 3.03 x 1.46 in.	Yes
AL-98-03-12080-NM	12V DC	80W	0%	14.96 x 3.03 x 2.24 in.	No
AL-98-03-12120-NM	12V DC	120W	0%	14.96 x 3.03 x 2.24 in.	No
AL-98-03-24024-NM	24V DC	24W	0%	13.78 x 3.03 x 1.46 in.	Yes
AL-98-03-24048-NM	24V DC	48W	0%	13.78 x 3.03 x 1.46 in.	Yes
AL-98-03-24060-NM	24V DC	60W	0%	13.78 x 3.03 x 1.46 in.	Yes
AL-98-03-24080-NM	24V DC	80W	0%	14.96 x 3.03 x 2.24 in.	Yes
AL-98-03-24096-NM	24V DC	96W	0%	14.96 x 3.03 x 2.24 in.	Yes
AL-98-03-24150-NM	24V DC	150W	0%	15.98 x 3.43 x 2.36 in.	No
AL-98-03-24200-NM	24V DC	200W	0%	15.98 x 3.43 x 2.36 in.	No

Note: Alloy LED strongly recommends using Listed Class 2 power supplies for all installations.
Always install in accordance with local and national electrical code regulations.
Inspectors prefer power supply to be used with junction box.
For dimmer compatibility, refer to drivers specification sheet.

DIMMING ACCESSORIES (SOLD SEPARATELY)

Lutron® Dimming Accessories

By participating in Lutron's OEM Advantage program, Alloy LED is able to offer a range of the highest quality low voltage power supplies and selected controls on the market.

Hi-lume Premier
0.1% EcoSystem /
3-wire LED Driver
(96W 24VDC)

Hi-lume 1% LED Driver 40W
- EcoSystem / 3-wire control
- 2-wire 120V forward phase control

Lutron Vive PowPak RF Module
- RF module for EcoSystem LED driver control
- Use with the Lutron EcoSystem drivers shown to "Vive-enable" Alloy LED products

Lutron® Hi-lume LED Drivers

Item #	Output	Wattage	Min. Load	Class 2
AL-98-07-12040	12V DC	40W	N/A	Yes
AL-98-07-12040-3WIRE	12V DC	40W	N/A	Yes
AL-98-07-24040	24V DC	40W	N/A	Yes
AL-98-07-24040-3WIRE	24V DC	40W	N/A	Yes
AL-98-07-24096-3WIRE	24V DC	96W	N/A	Yes

Lutron® Controls

Item #	Description	Voltage
AL-98-07-9901	EcoSystem Control Module	N/A
AL-98-07-9901-8	EcoSystem Control Module - 8 pack	N/A
AL-98-07-9950	CL Dimmer	120V AC
AL-98-07-9950-FPLATE	CL Dimmer faceplate	N/A

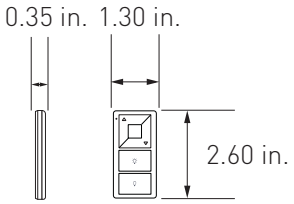
DIMMING ACCESSORIES (SOLD SEPARATELY)

Dimmers & Switches

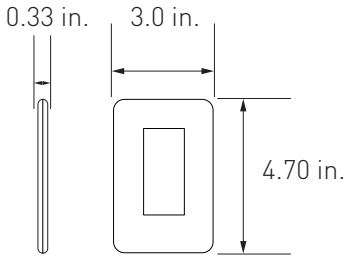
SlimDim Wireless Dimmers

Using long-range RF technology, these LED dimmers connect wirelessly to a receiver, offering freedom to mount anywhere. Can also be used as a fob for mobile, hand-held control.

AL-70-01-0001	SlimDim Wireless Dimmer	
AL-70-01-0002	Single Color Receiver (96W maximum) (sold separately)	c UL us
AL-98-07-9950-FPLATE	SlimDim Wall Plate (sold separately)	



SlimDim Wireless Dimmer

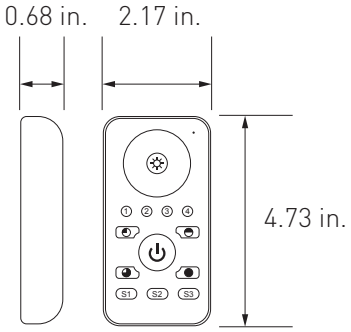


SlimDim Wall Plate (Sold Seperately)

Remote Control Dimmer Switch

Provides full dimming and on/off control, and includes a touch wheel that allows for direct visual selection of brightness. It can also operate up to four independent zones.

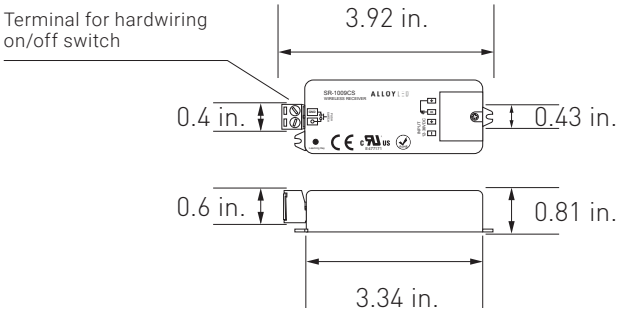
AL-60-03-0001	Remote Control Dimmer Switch	
AL-70-01-0002	Single Channel Receiver (sold separately)	c UL us
AL-60-03-0004-V2	Wireless Receiver (RGB & RGB-W) (sold separately)	c UL us



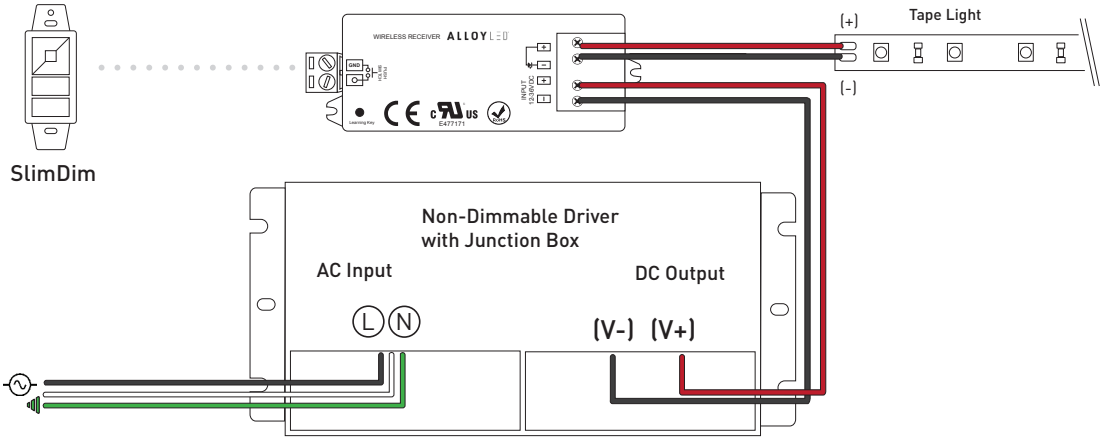
Single Channel Wireless Receiver

Pair with the Remote Control Dimmer Switch or the SlimDim Wireless Dimmer to dim PrimaLine tape lights. Use one remote to make independent lighting zones with multiple receivers with certain controllers.

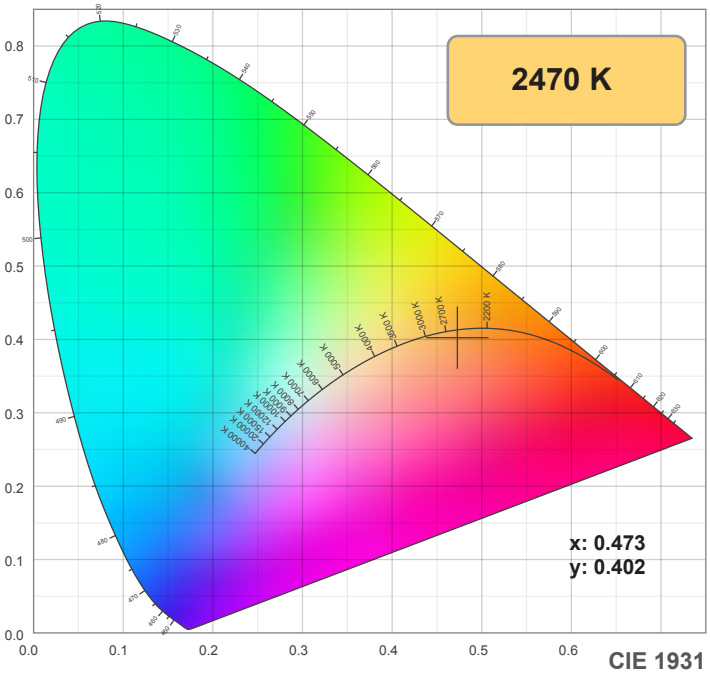
AL-70-01-0002	Single Channel Wireless Receiver



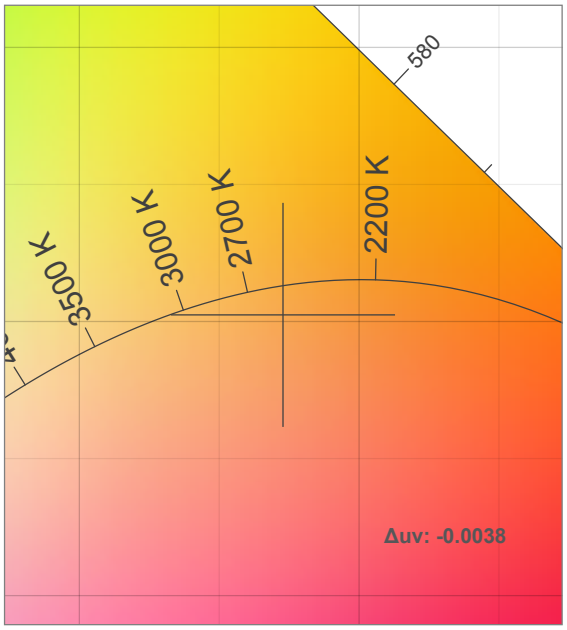
WIRING DIAGRAM



20%

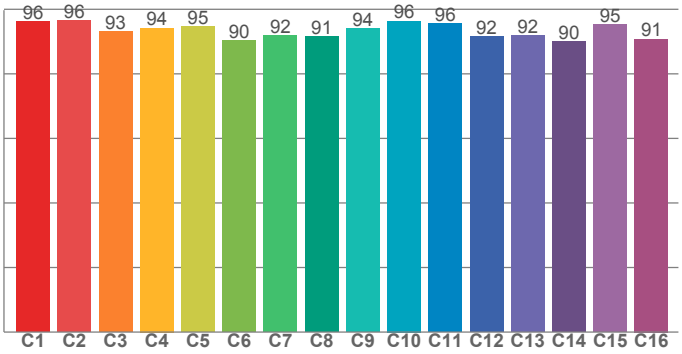


CIE 1931

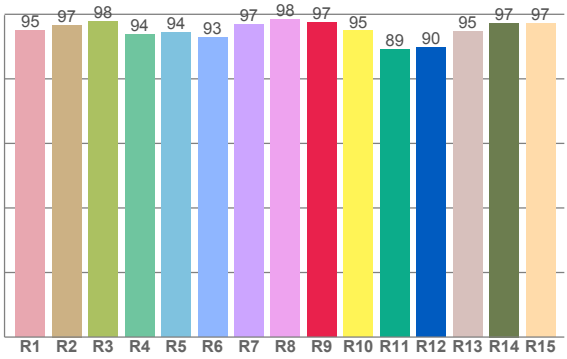


CIE 1931 ZOOM

TM30: 93.9



CRI: 95.7 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
95.1	96.7	97.7	93.6	94.4	92.7	96.9	98.5	97.4	94.9	89.1	89.8	94.8	97.3	97.2

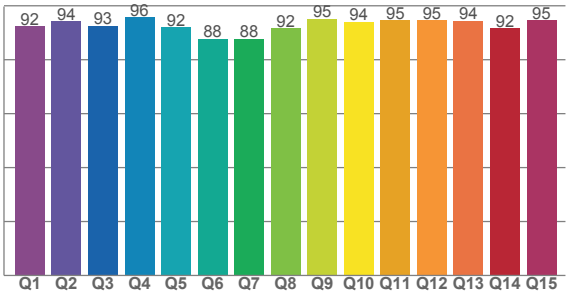
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.3	96.5	93.2	94.2	94.6	90.4	91.8	91.4	94.2	96.4	95.6	91.6	91.9	89.9	95.2	90.8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.3	94.2	92.6	95.7	92.0	87.8	87.7	91.6	95.2	94.1	94.6	94.6	94.4	91.6	94.6

CQS: 92.1



Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2470 K	95.7	97.4	93.9	105.3	92.1	0.473	0.402	0.275	0.351	-0.0038

20%

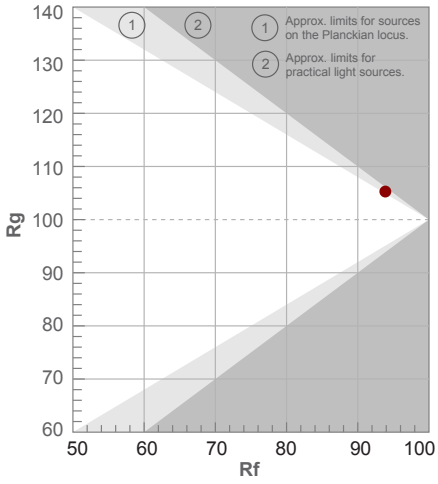
Rf 93.9

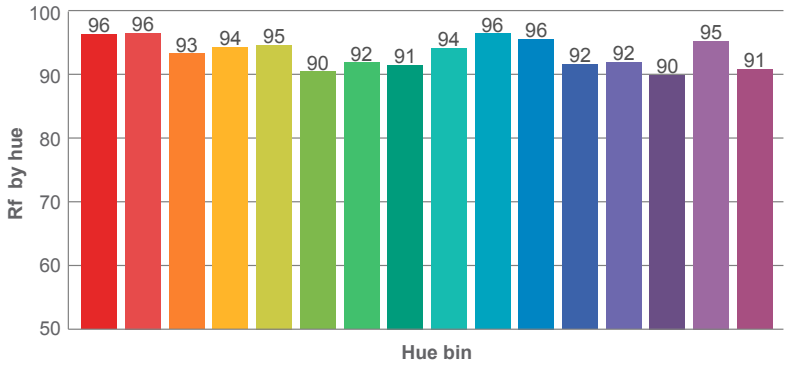
Fidelity index Rf

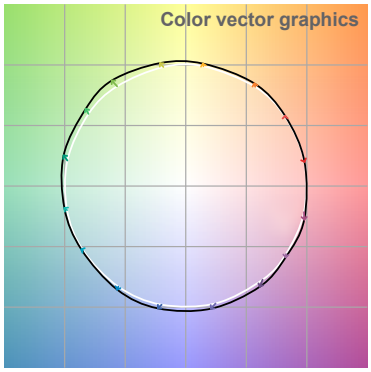
Rg 105.3

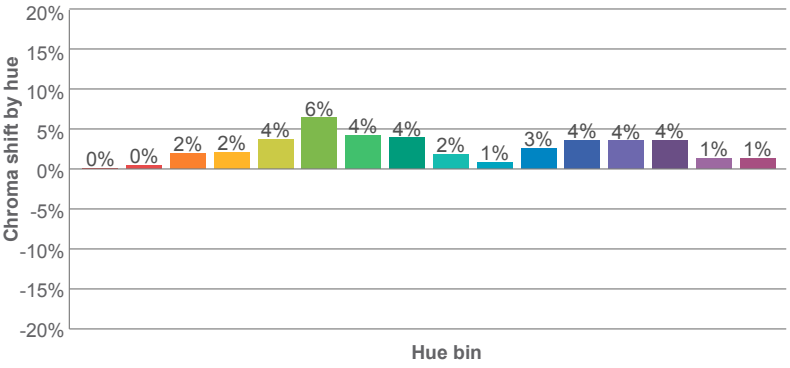
Gammut index Rg

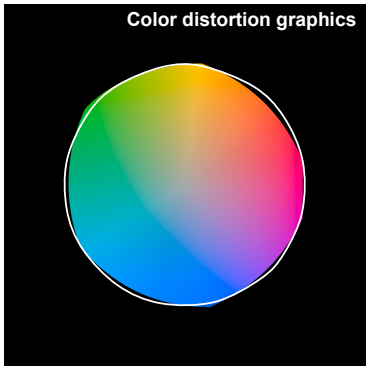
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	96	0%	0%
2	96	0%	1%
3	93	2%	2%
4	94	2%	1%
5	95	4%	2%
6	90	6%	1%
7	92	4%	-2%
8	91	4%	-3%
9	94	2%	-2%
10	96	1%	-1%
11	96	3%	1%
12	92	4%	-2%
13	92	4%	-5%
14	90	4%	-5%
15	95	1%	-2%
16	91	1%	-6%

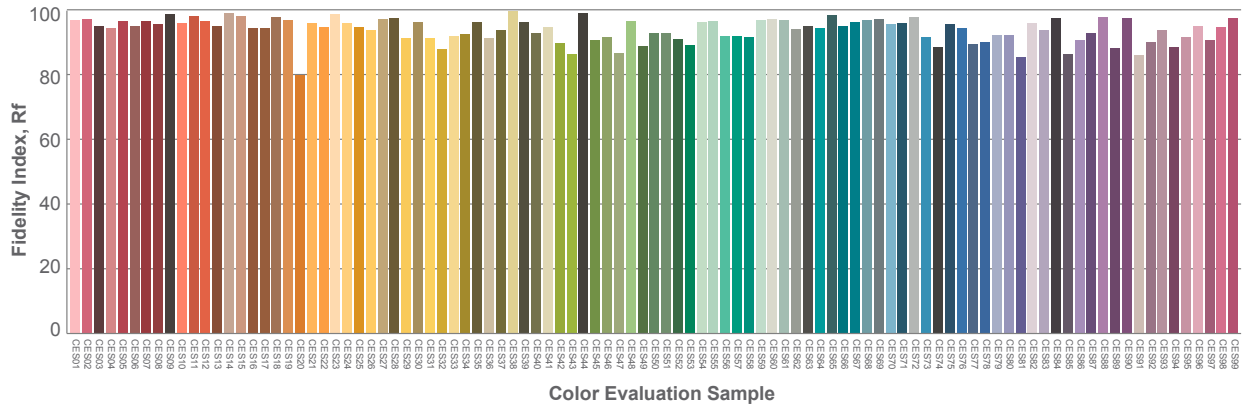




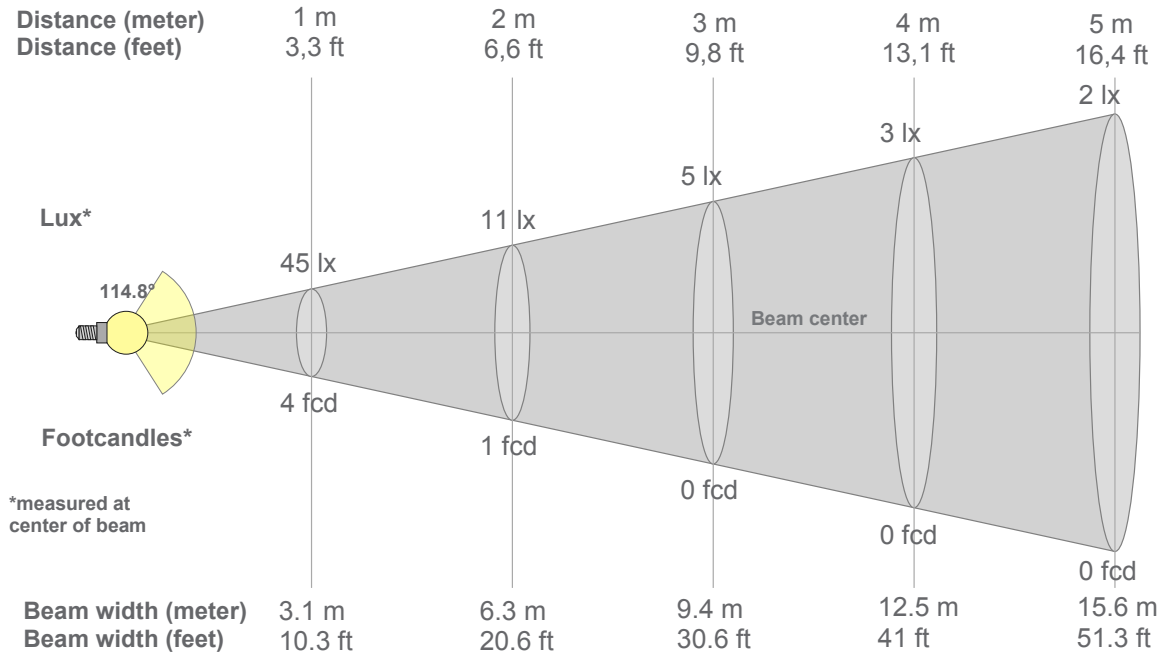








20%



Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
45lx	11lx	5lx	3lx	2lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
4.2fcd	1.1fcd	0.5fcd	0.3fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd

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°
45.3	45.1	44.5	43.6	42.3	40.6	38.6	36.3	33.7	30.8	27.7	24.3	20.8	17.1	13.2	9.3	5.8	2.7	0.9	0.4
100%	100%	98%	96%	93%	90%	85%	80%	74%	68%	61%	54%	46%	38%	29%	21%	13%	6%	2%	1%

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°
45.3	45.1	44.5	43.6	42.3	40.6	38.6	36.3	33.7	30.8	27.7	24.3	20.8	17.1	13.2	9.3	5.8	2.7	0.9	0.4
100%	100%	98%	96%	93%	90%	85%	80%	74%	68%	61%	54%	46%	38%	29%	21%	13%	6%	2%	1%

Intensities in 180° c-plane

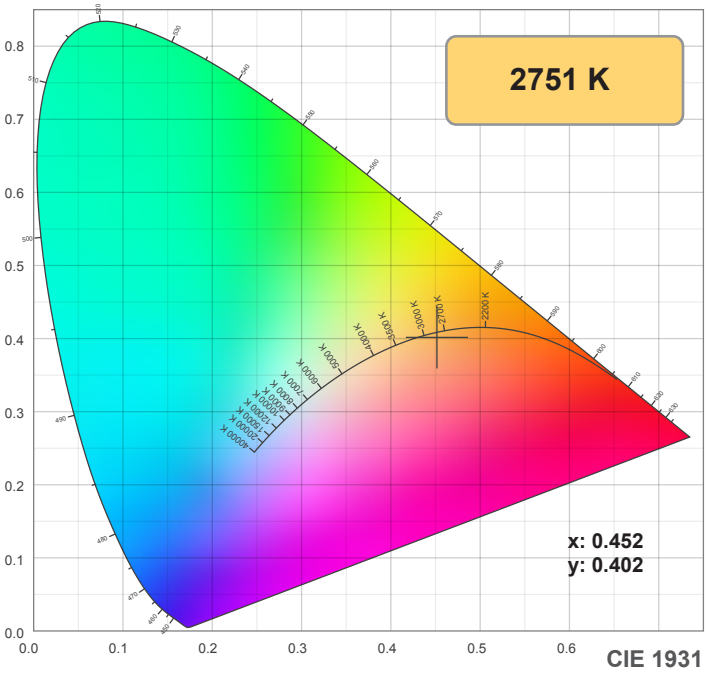
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
45.3	45.1	44.6	43.7	42.4	40.8	38.8	36.5	33.9	30.9	27.8	24.4	20.8	17.0	13.0	9.1	5.5	2.5	0.8	0.4
100%	100%	98%	96%	94%	90%	86%	81%	75%	68%	61%	54%	46%	37%	29%	20%	12%	6%	2%	1%

Intensities in 270° c-plane

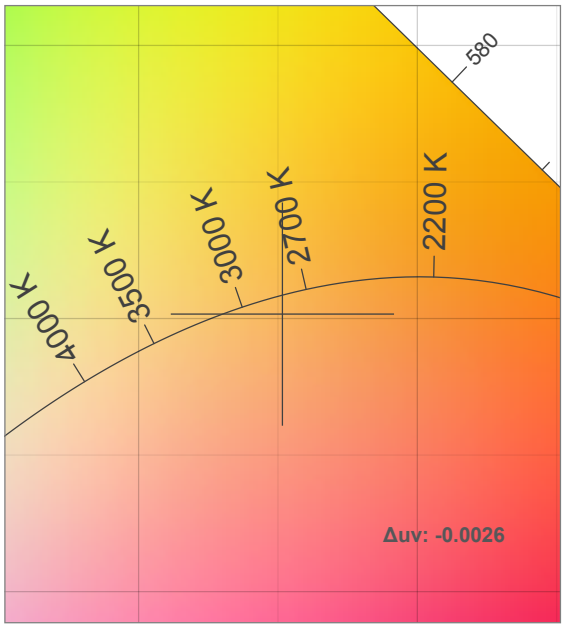
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
45.3	45.1	44.6	43.7	42.4	40.8	38.8	36.5	33.9	30.9	27.8	24.4	20.8	17.0	13.0	9.1	5.5	2.5	0.8	0.4
100%	100%	98%	96%	94%	90%	86%	81%	75%	68%	61%	54%	46%	37%	29%	20%	12%	6%	2%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
114.8°	**163.2°**	**360°**	**74.8%**	**50.7%**

50%

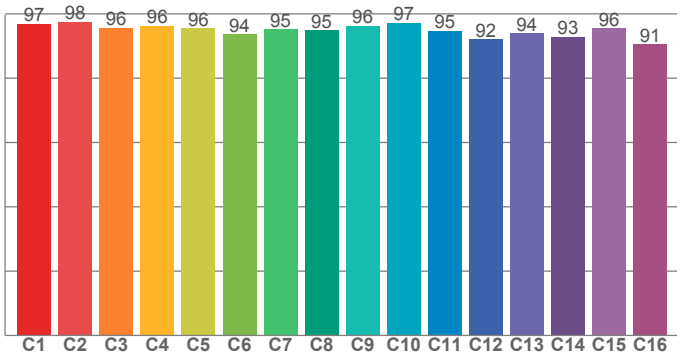


CIE 1931

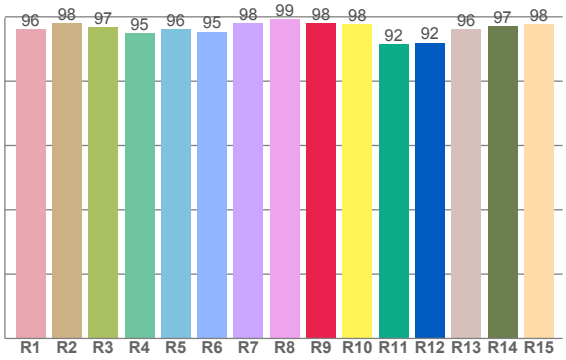


CIE 1931 ZOOM

TM30: 95.2



CRI: 96.9 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.2	98.0	96.9	95.0	96.2	95.4	98.1	99.2	98.0	97.6	91.6	91.9	96.2	97.0	97.7

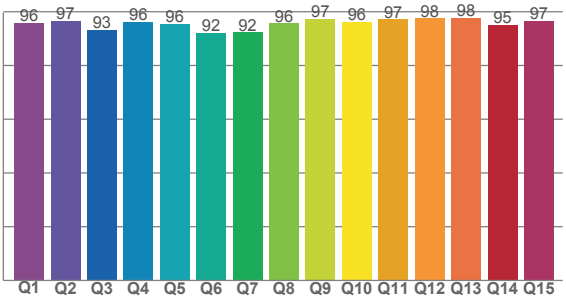
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.9	97.6	95.7	96.2	95.5	93.6	95.1	94.9	96.3	97.2	94.8	92.1	94.0	92.8	95.6	90.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
95.9	96.5	93.4	96.2	95.6	92.1	92.3	95.6	97.3	96.2	97.1	97.5	97.7	95.0	96.5

CQS: 95.1



Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2751 K	96.9	98.0	95.2	103.4	95.1	0.452	0.402	0.261	0.348	-0.0026

Note: specifications are representative of the diode type and not a particular tape light article.

50%

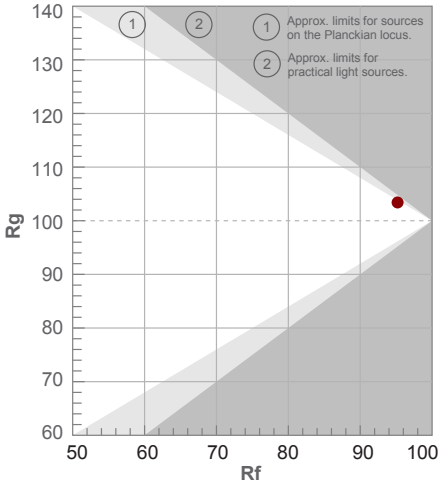
Rf 95.2

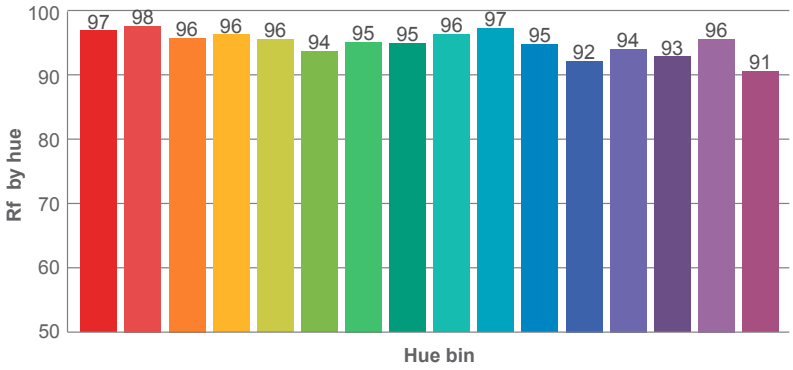
Fidelity index Rf

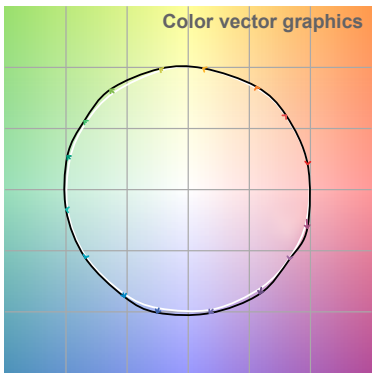
Rg 103.4

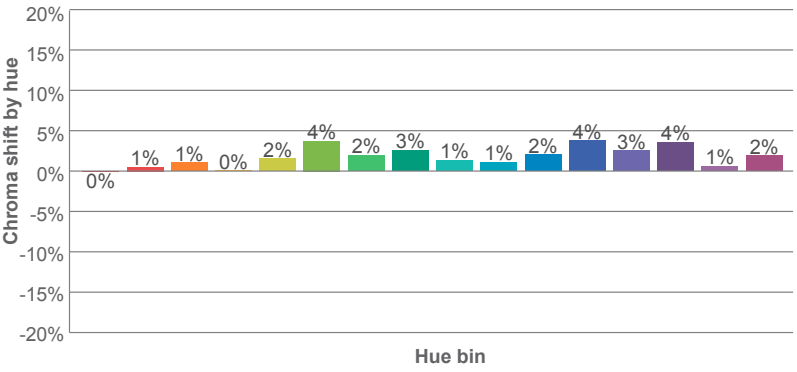
Gammut index Rg

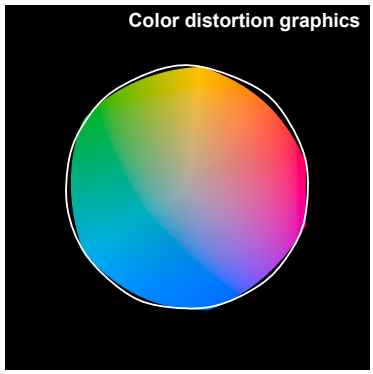
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	97	0%	0%
2	98	1%	0%
3	96	1%	1%
4	96	0%	0%
5	96	2%	2%
6	94	4%	1%
7	95	2%	0%
8	95	3%	-2%
9	96	1%	0%
10	97	1%	1%
11	95	2%	3%
12	92	4%	-1%
13	94	3%	-3%
14	93	4%	-4%
15	96	1%	-1%
16	91	2%	-6%

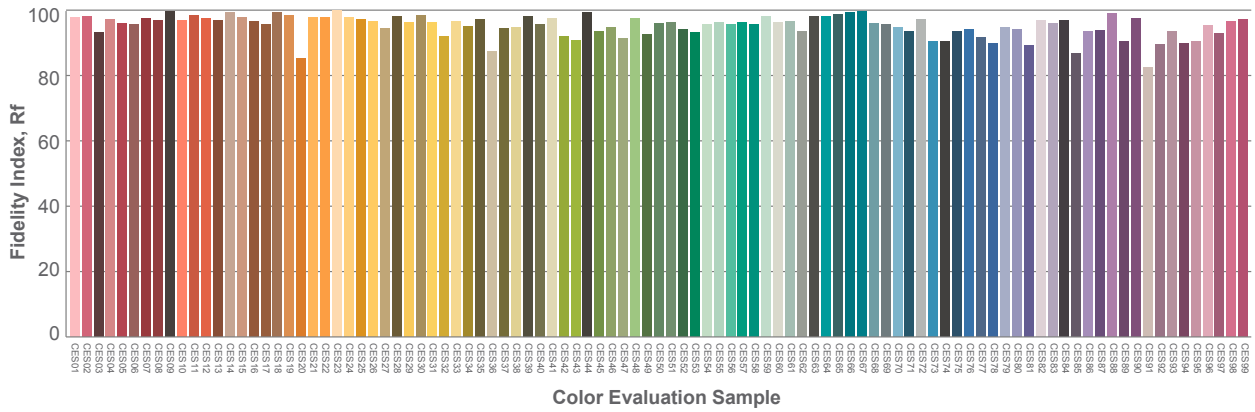




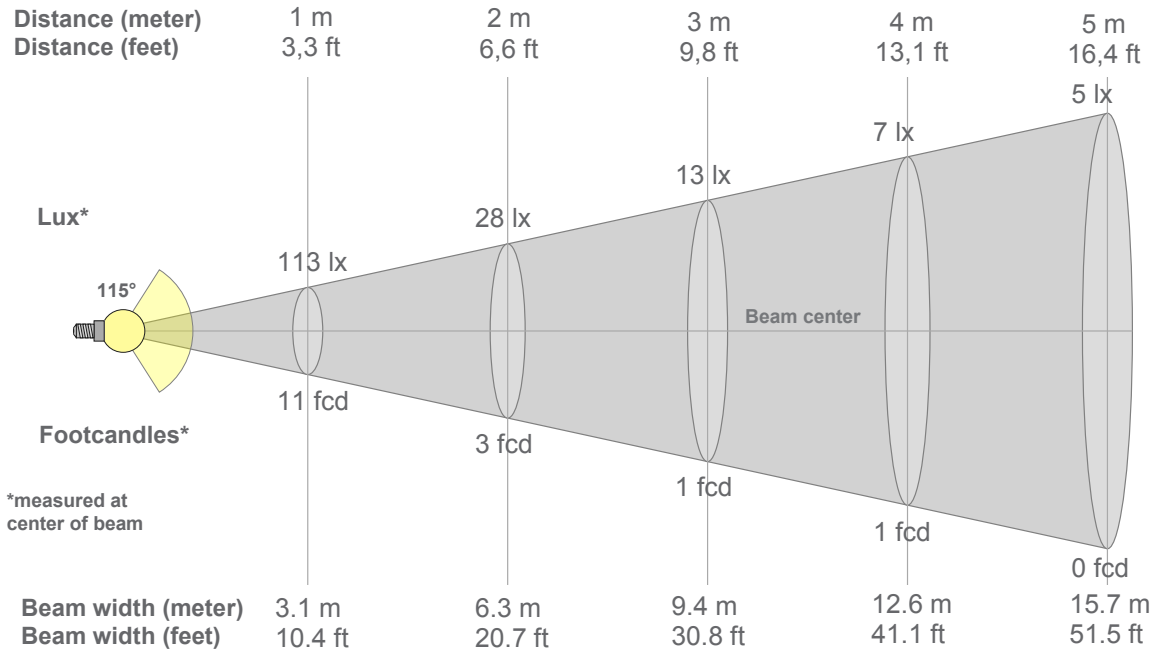








50%



Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
113lx	28lx	13lx	7lx	5lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx
10.5fcd	2.6fcd	1.2fcd	0.7fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd

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°
113	113	111	109	106	102	97	91	85	77	70	61	52	43	33	23	14	6	2	1
100%	100%	98%	96%	93%	90%	85%	80%	75%	68%	61%	54%	46%	38%	29%	21%	12%	6%	1%	1%

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°
113	113	111	109	106	102	97	91	85	77	70	61	52	43	33	23	14	6	2	1
100%	100%	98%	96%	93%	90%	85%	80%	75%	68%	61%	54%	46%	38%	29%	21%	12%	6%	1%	1%

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°
113	113	112	109	106	102	97	92	85	78	70	61	52	43	33	23	13	6	1	1
100%	100%	98%	96%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	20%	12%	5%	1%	1%

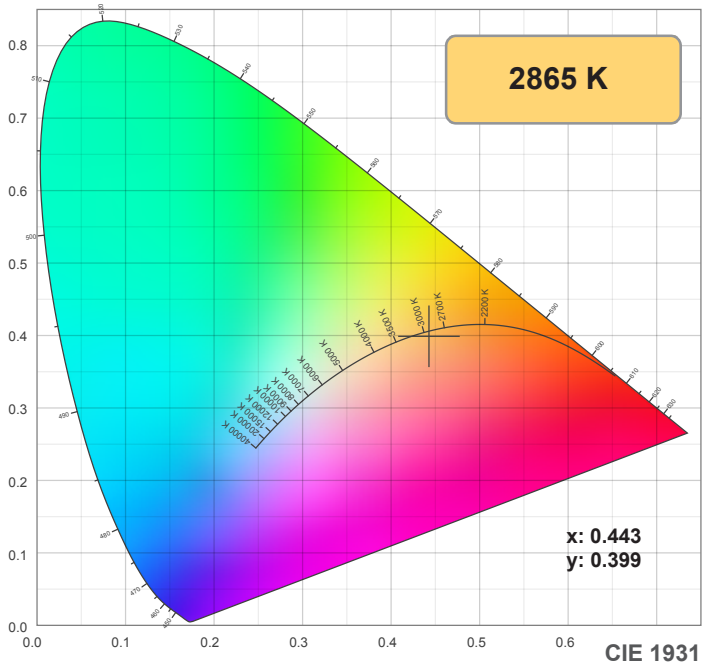
Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
113	113	112	109	106	102	97	92	85	78	70	61	52	43	33	23	13	6	1	1
100%	100%	98%	96%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	20%	12%	5%	1%	1%

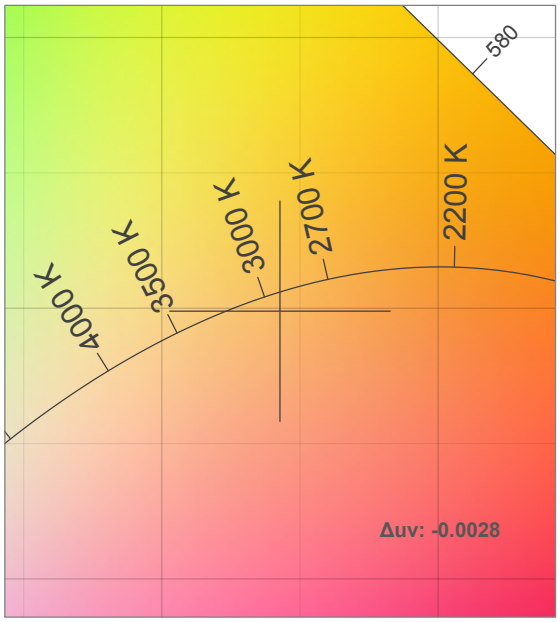
Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
115°	162.9°	360°	75.3%	50.9%

Note: specifications are representative of the diode type and not a particular tape light article.

100%

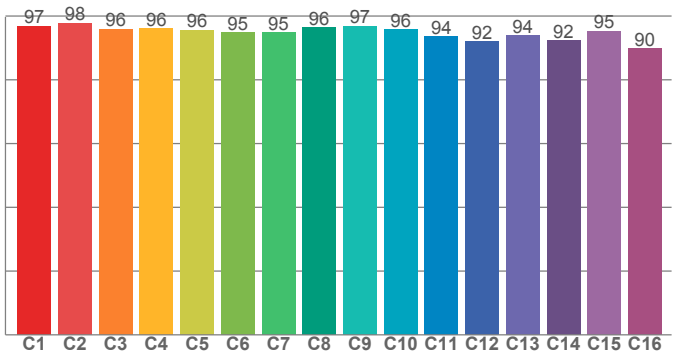


CIE 1931

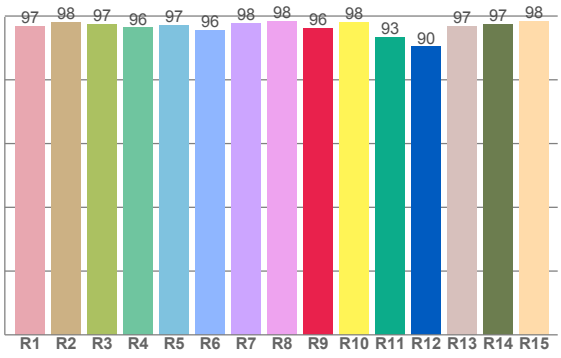


CIE 1931 ZOOM

TM30: 95.1



CRI: 97.2 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
96.9	98.1	97.4	96.3	97.1	95.6	97.8	98.3	96.1	98.0	93.3	90.3	96.8	97.4	98.4

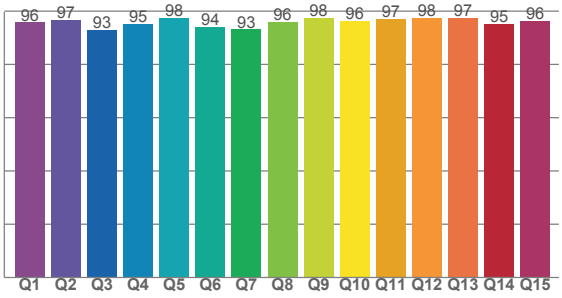
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.9	97.8	96.0	96.2	95.7	94.8	94.8	96.5	96.9	95.8	93.6	91.9	94.0	92.4	95.3	89.8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
95.8	96.8	93.0	95.1	97.5	94.1	93.1	95.8	97.6	96.4	97.0	97.5	97.5	95.3	96.2

CQS: 95.4



Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2865 K	97.2	96.1	95.1	102.7	95.4	0.443	0.399	0.257	0.347	-0.0028

100%

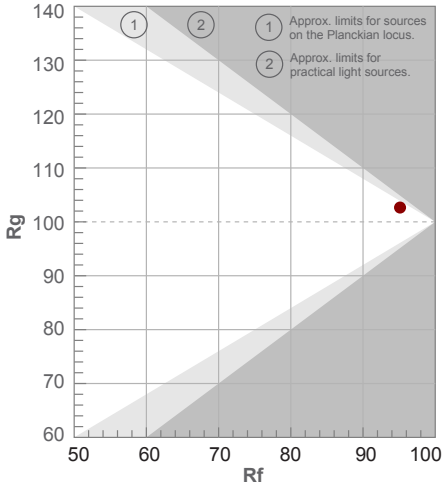
Rf 95.1

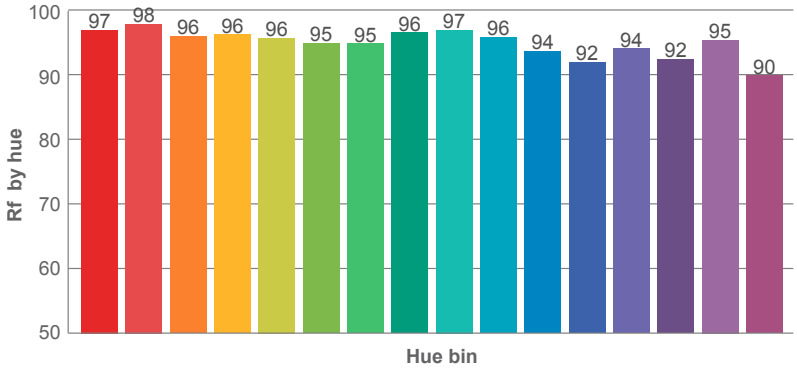
Fidelity index Rf

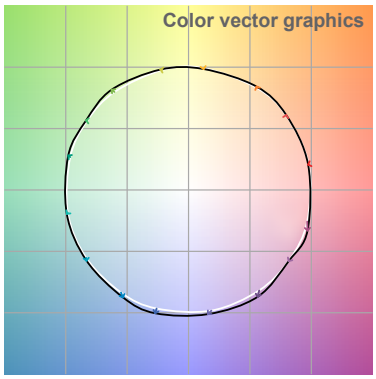
Rg 102.7

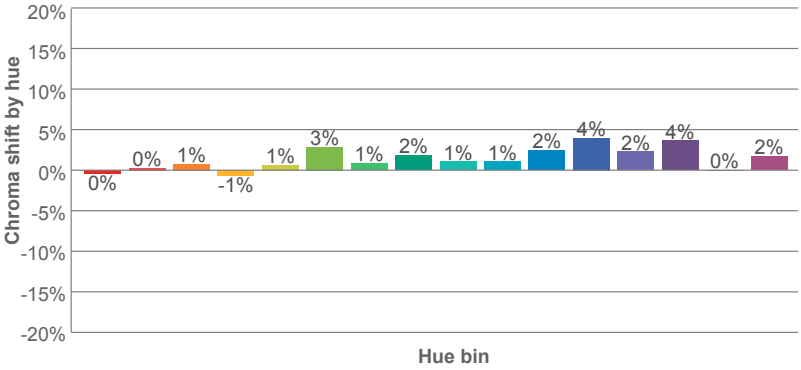
Gammut index Rg

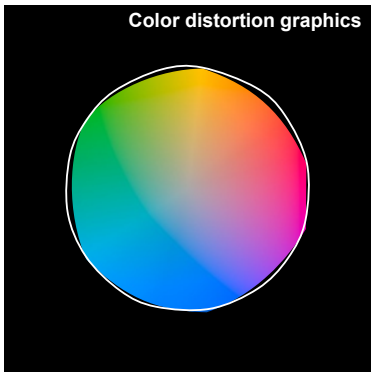
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	97	0%	0%
2	98	0%	0%
3	96	1%	1%
4	96	-1%	0%
5	96	1%	2%
6	95	3%	1%
7	95	1%	0%
8	96	2%	-1%
9	97	1%	1%
10	96	1%	2%
11	94	2%	4%
12	92	4%	0%
13	94	2%	-3%
14	92	4%	-4%
15	95	0%	-1%
16	90	2%	-7%

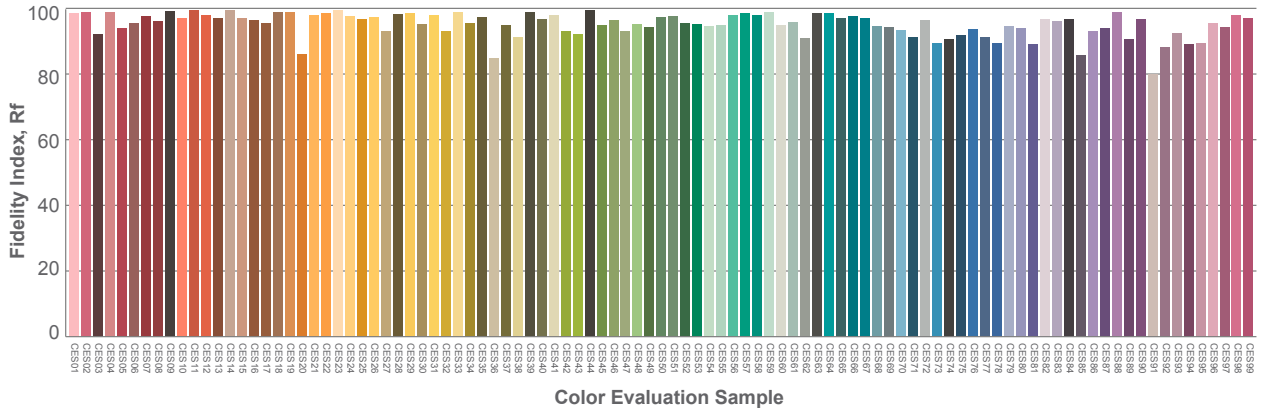




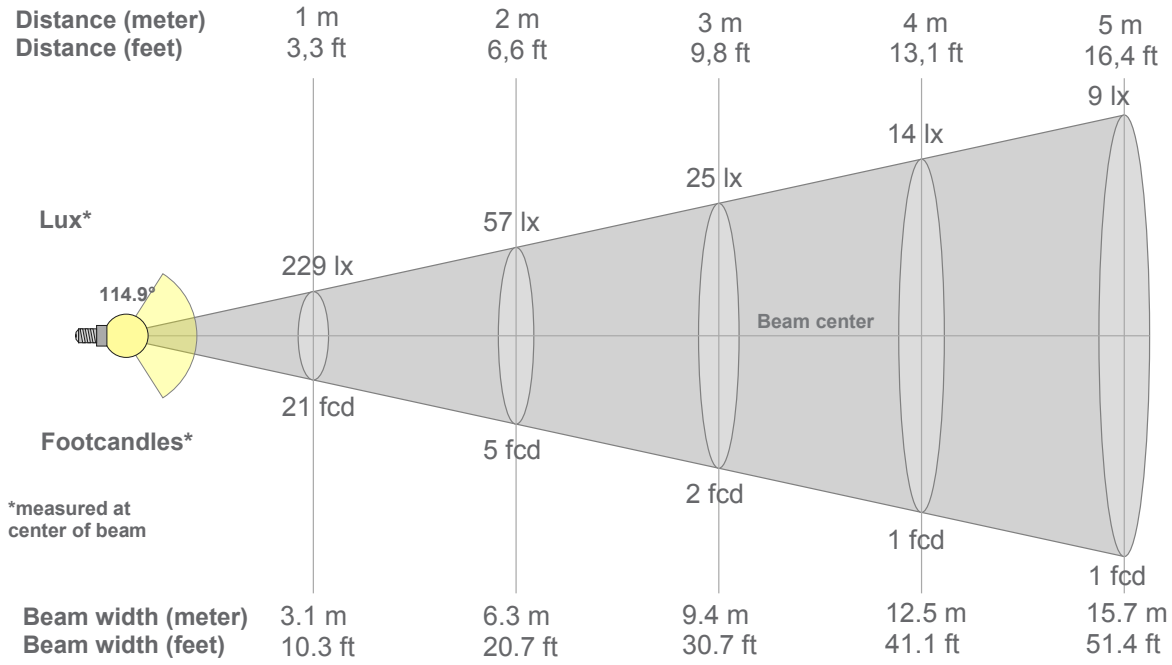








100%



Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
229lx	57lx	25lx	14lx	9lx	6lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
21.2fcd	5.3fcd	2.4fcd	1.3fcd	0.8fcd	0.6fcd	0.4fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

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°
229	227	224	220	213	205	195	183	170	156	140	123	105	86	67	47	29	14	3	2
100%	99%	98%	96%	93%	90%	85%	80%	75%	68%	61%	54%	46%	38%	29%	21%	13%	6%	1%	1%

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°
229	227	224	220	213	205	195	183	170	156	140	123	105	86	67	47	29	14	3	2
100%	99%	98%	96%	93%	90%	85%	80%	75%	68%	61%	54%	46%	38%	29%	21%	13%	6%	1%	1%

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°
229	227	225	221	214	206	196	184	171	157	141	123	105	86	66	46	28	13	3	2
100%	99%	98%	96%	93%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	20%	12%	6%	1%	1%

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°
229	227	225	221	214	206	196	184	171	157	141	123	105	86	66	46	28	13	3	2
100%	99%	98%	96%	93%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	20%	12%	6%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
114.9°	163°	360°	75.1%	50.7%