

# Photometric Test Report



## ECLDISPLAYCASVW

PROFILE LENS 8°

35W variable white LED gallery light,  
from 2700K to 5600K

(CASAMBI control on-board)

## CONTENTS

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## **TESTING PROCESS**

Prolights has its own optical testing laboratory in order to provide accurate photometric reports for its lighting products. The testing laboratory contains certain variety of precise lighting measurement systems that ensure an optimal reading of all the characteristic parameters of the lighting devices. All measurements are made at a controlled room temperature of 20°C without any external light sources. This photometric report is obtained through the data measured by a high precision measurement system and analyzed by a dedicate software.

### **Prolights measurement instrument**

Prolights measurement instrument is a complete measurement system for any light source. It's equipped with two-axis goniometer, that enables to measure the full 3D distribution field of the light source. This instrument measures the light intensity, the beam angle and the most significative colors parameters, like color temperature, spectral distribution, CRI, CQS, TM-30 with a very high accuracy rate.

**Please Note:** All measurements are made with light source at operating temperature. Before starting the measurement, the instrument analyzes the process of the light source during the heating phase. The measuring process of all the parameters begins only when the light emission is stable, that is with a variation of less than 0.5% in a 15 minutes time frame.

### **Prolights measurement software**

The software provides user friendly interface for the operator who does the measurements, and it also analyzes and processes all the collected data by the instrument. With this software it is possible to see the measured data in real-time and it is possible to examine all the measured data and graphics afterwards as well. All information is collected in a specific Prolights template, and the software creates also IES and LDT files, which are widely used to transfer the photometric data, and to develop lighting system.

Additionally, the fixtures are rechecked using various hand-held instruments like Sekonic C-700 and Gossen Mavospec Base, this is done to ensure, that the data in the photometric report are as accurate as possible.



Total lumen output:

598 lm

Peak candela output:

41775 cd

Light quality:

CRI: 97,6

Color temperature:

4002 K

PRODUCT NAME:

ECLDISPLAYVW

MEASURAMENT CONDITIONS:

Beam angle:

Profile 8°

Target:

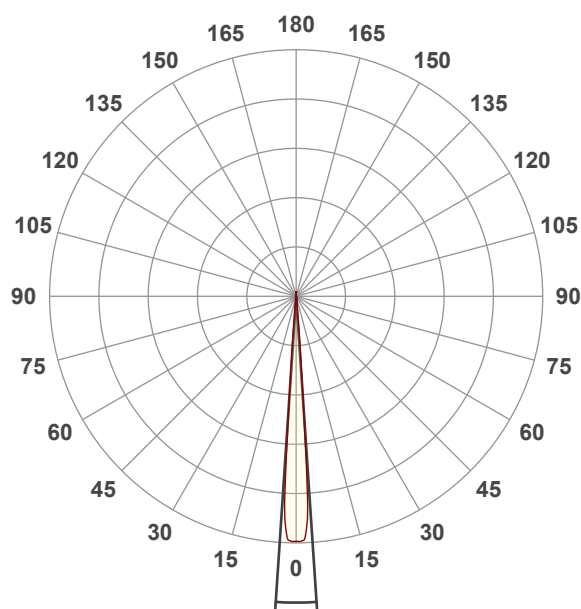
Full On

Operator:

Paolo Carvone

Date and time:

03/04/2023 10:22:35

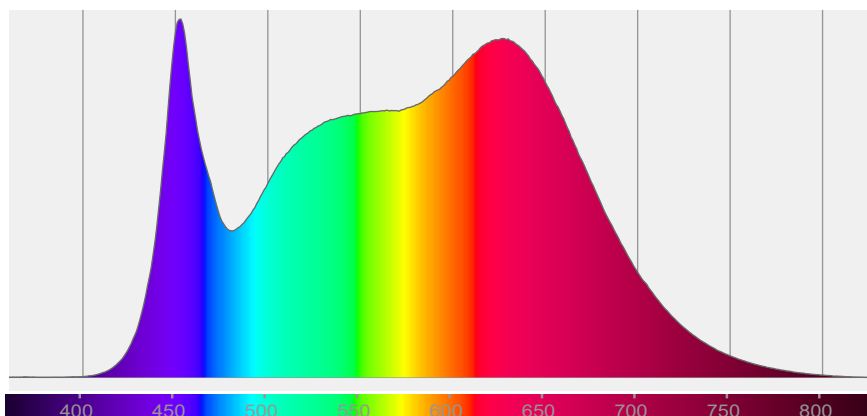


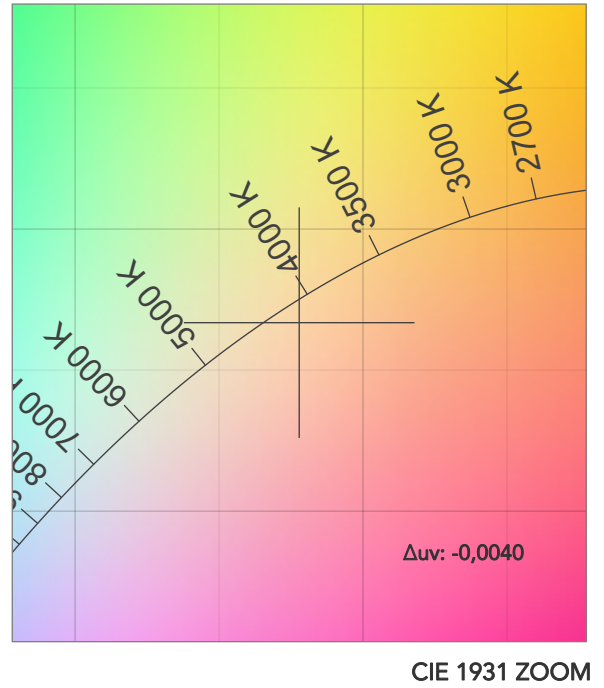
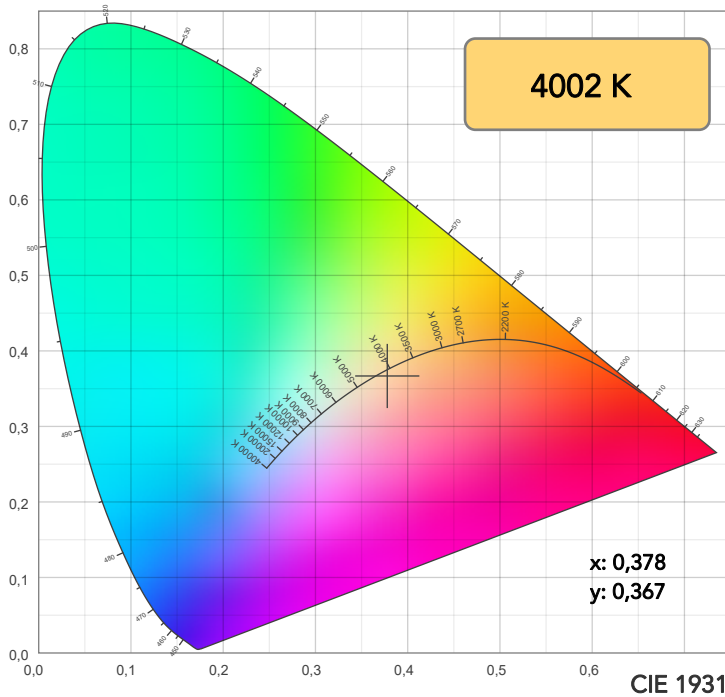
Beam angle 50%: 7,6°

Field angle 10%: 9,7°

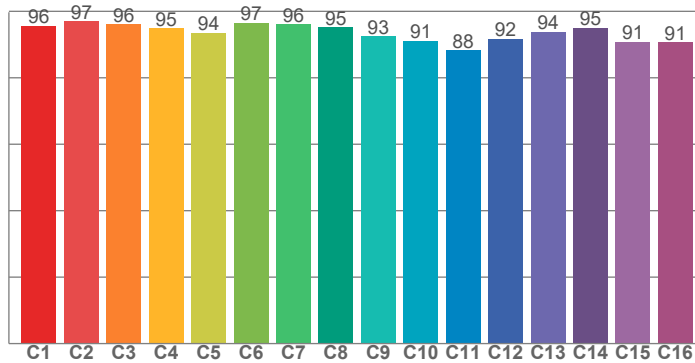
Cut off angle 2.5%: 10,3°

Spectra

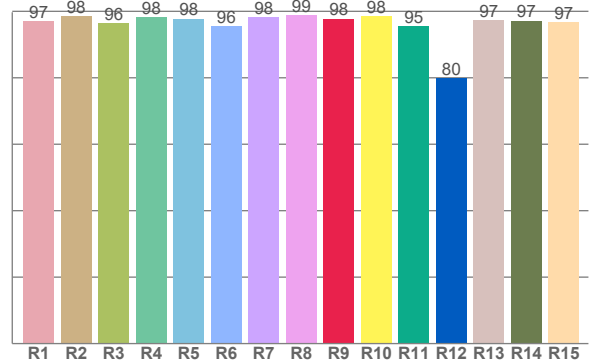




TM30: 93,6



CRI: 97,6 (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  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 97,0 | 98,5 | 96,5 | 98,3 | 97,8 | 95,6 | 98,3 | 98,9 | 97,7 | 98,4 | 95,5 | 79,9 | 97,3 | 97,2 | 96,7 |

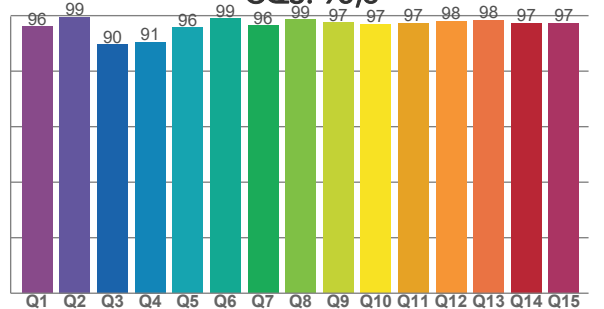
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 95,6 | 97,0 | 96,0 | 94,9 | 93,6 | 96,5 | 96,1 | 95,2 | 92,5 | 91,1 | 88,2 | 91,8 | 93,9 | 95,1 | 90,8 | 90,6 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 96,1 | 99,4 | 89,6 | 90,5 | 95,6 | 98,9 | 96,4 | 98,6 | 97,5 | 96,9 | 97,2 | 98,1 | 98,5 | 97,4 | 97,3 |

CQS: 95,6



## COLOR PARAMETERS

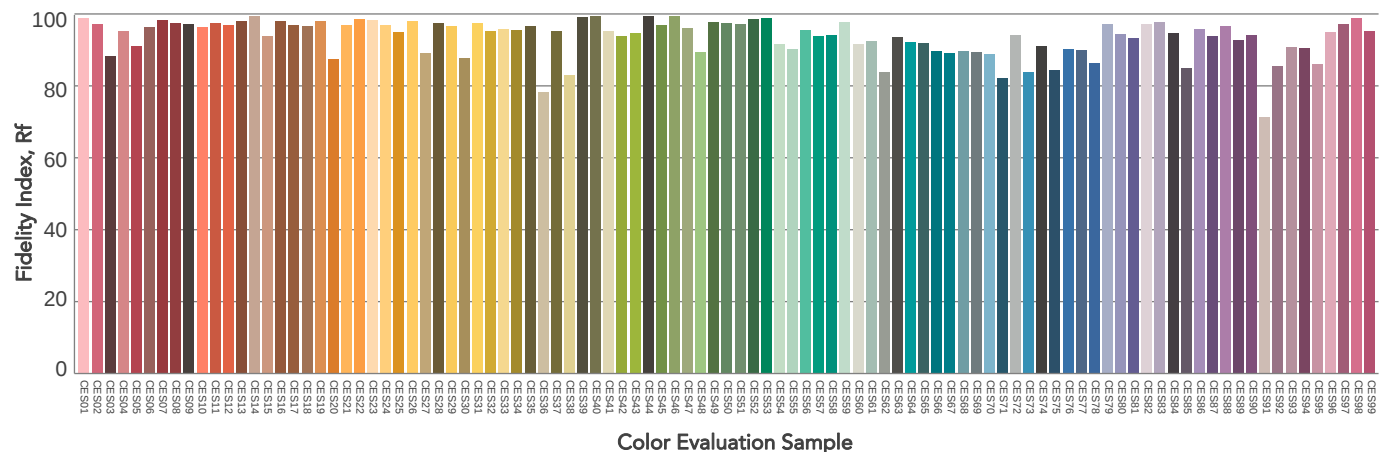
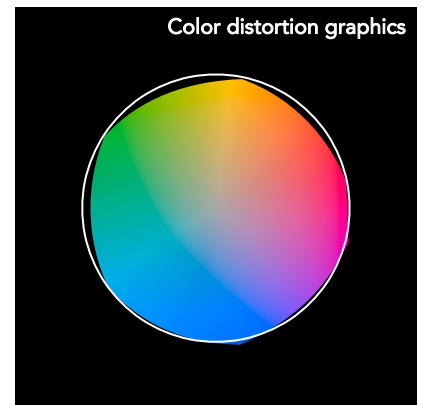
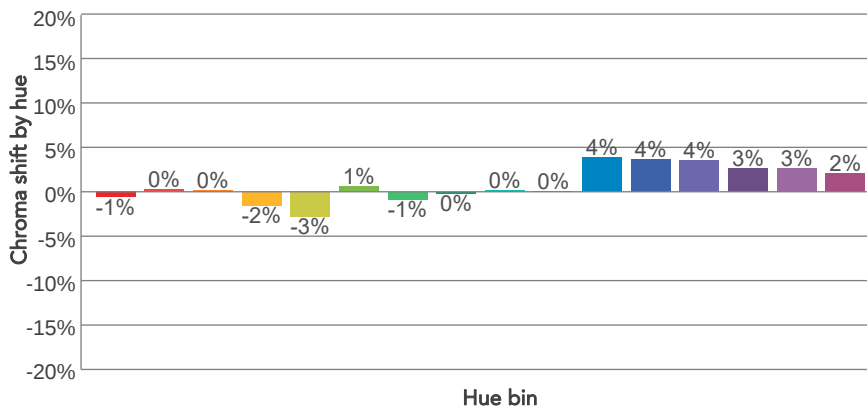
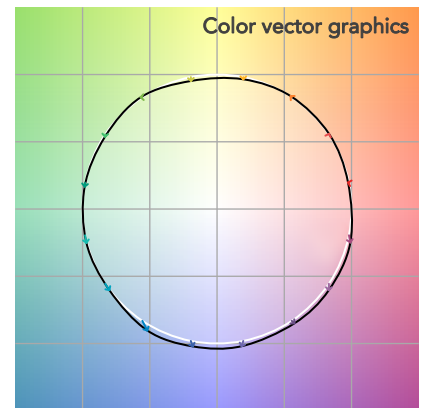
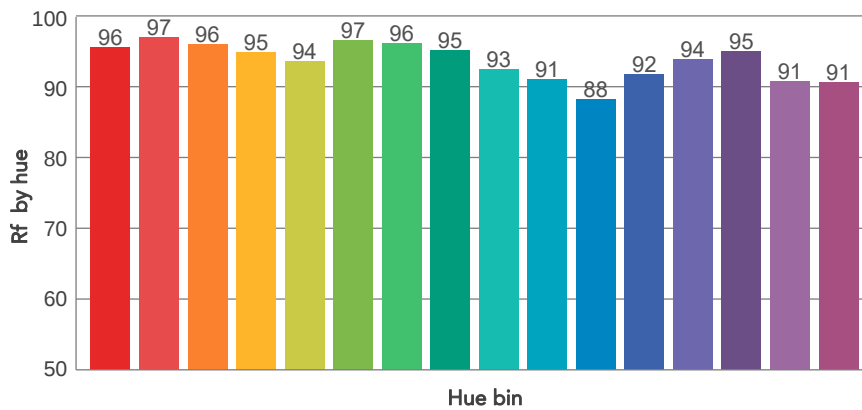
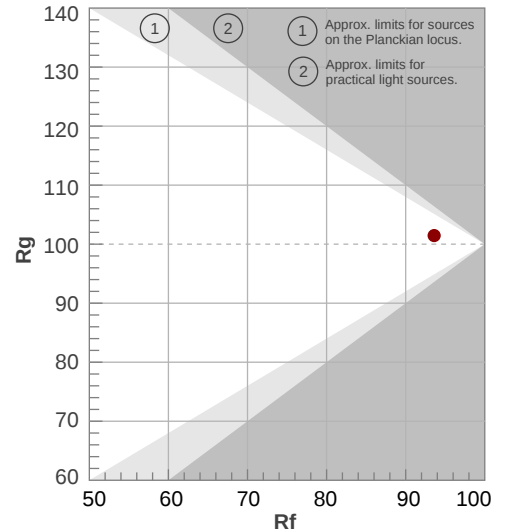
| Color temperature | Color rendering index | Red component | Color fidelity | Color gamut | Color quality scale | Television lighting index | Color coordinate cie 1931 | Color coordinate cie 1931 | Color deviation from black body |
|-------------------|-----------------------|---------------|----------------|-------------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------------|
| CCT               | CRI                   | CRI R9        | TM30 Rf        | TM30 Rg     | CQS                 | TLCI                      | x                         | y                         | Δuv                             |
| 4002 K            | 97,6                  | 97,7          | 93,6           | 101,5       | 95,6                | 98                        | 0,378                     | 0,367                     | -0,0040                         |

# TM30 DETAILS

**Rf 93,6**  
Fidelity index Rf

**Rg 101,5**  
Gammut index

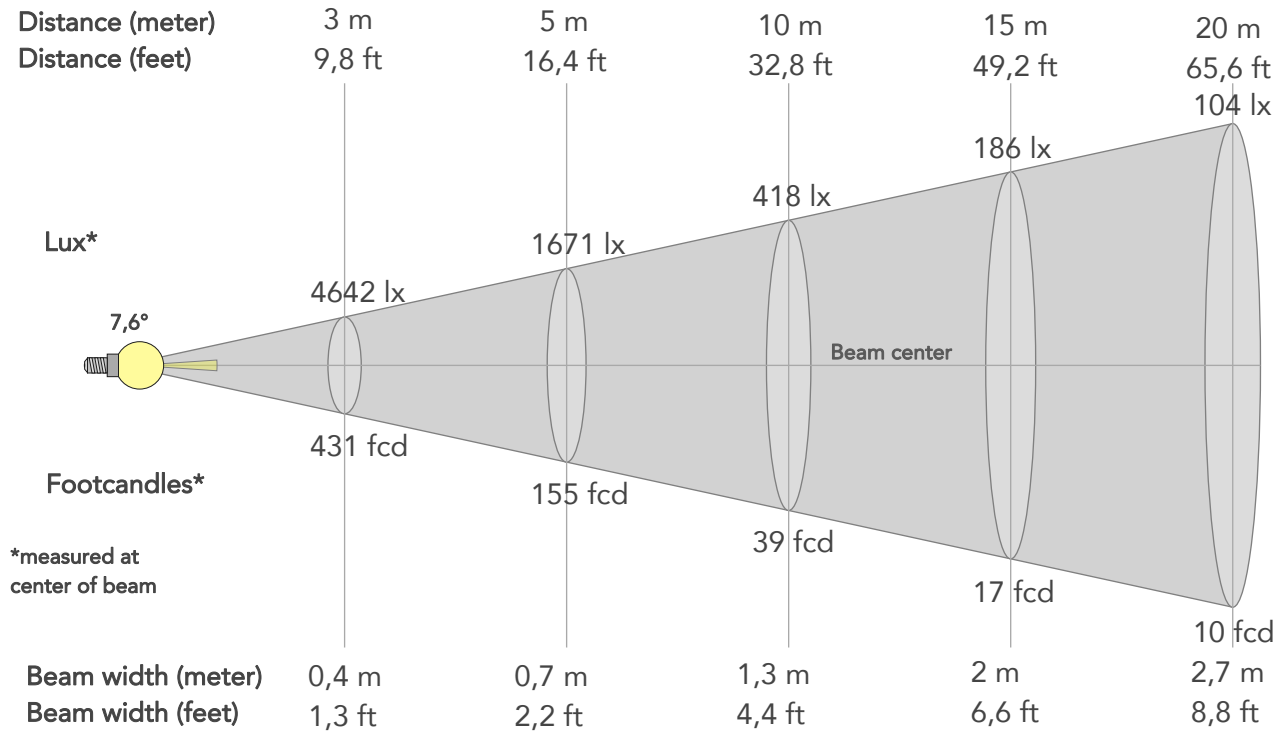
| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |     |
|---------|----------------|--------------------|-----|
|         |                | Chroma             | Hue |
| 1       | 96             | -1%                | 0%  |
| 2       | 97             | 0%                 | 0%  |
| 3       | 96             | 0%                 | 1%  |
| 4       | 95             | -2%                | 0%  |
| 5       | 94             | -3%                | 0%  |
| 6       | 97             | 1%                 | 1%  |
| 7       | 96             | -1%                | 2%  |
| 8       | 95             | 0%                 | 3%  |
| 9       | 93             | 0%                 | 6%  |
| 10      | 91             | 0%                 | 6%  |
| 11      | 88             | 4%                 | 7%  |
| 12      | 92             | 4%                 | 2%  |
| 13      | 94             | 4%                 | -2% |
| 14      | 95             | 3%                 | 1%  |
| 15      | 91             | 3%                 | -4% |
| 16      | 91             | 2%                 | -5% |



## BEAM DETAILS



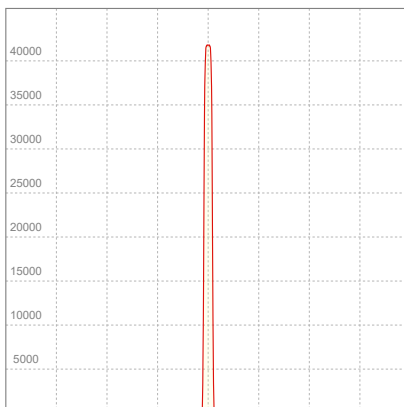
| Beam angle 50% | Field angle 10% | Cut off angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|--------------------|------------------------------|-----------------------------|
| 7,6°           | 9,7°            | 10,3°              | 100,0%                       | 100,0%                      |



### BEAM INTENSITIES AND WIDTHS

| Distance  | 1m      | 2m      | 3m     | 4m     | 5m     | 7,5m   | 10m    | 15m    | 20m    | 25m    | 30m    | 40m     | 50m    |
|-----------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| Distance  | 3,3ft   | 6,6ft   | 9,8ft  | 13,1ft | 16,4ft | 24,6ft | 32,8ft | 49,2ft | 65,6ft | 82ft   | 98,4ft | 131,2ft | 164ft  |
| Lux       | 41775lx | 10444lx | 4642lx | 2611lx | 1671lx | 743lx  | 418lx  | 186lx  | 104lx  | 67lx   | 46lx   | 26lx    | 17lx   |
| Footcand. | 3881fcd | 970fcd  | 431fcd | 243fcd | 155fcd | 69fcd  | 39fcd  | 17fcd  | 10fcd  | 6fcd   | 4fcd   | 2fcd    | 2fcd   |
| Beam wid. | 0,1m    | 0,3m    | 0,4m   | 0,5m   | 0,7m   | 1m     | 1,3m   | 2m     | 2,7m   | 3,3m   | 4m     | 5,3m    | 6,7m   |
| Beam wid. | 0,4ft   | 0,9ft   | 1,3ft  | 1,7ft  | 2,2ft  | 3,3ft  | 4,4ft  | 6,6ft  | 8,8ft  | 10,9ft | 13,1ft | 17,5ft  | 21,9ft |

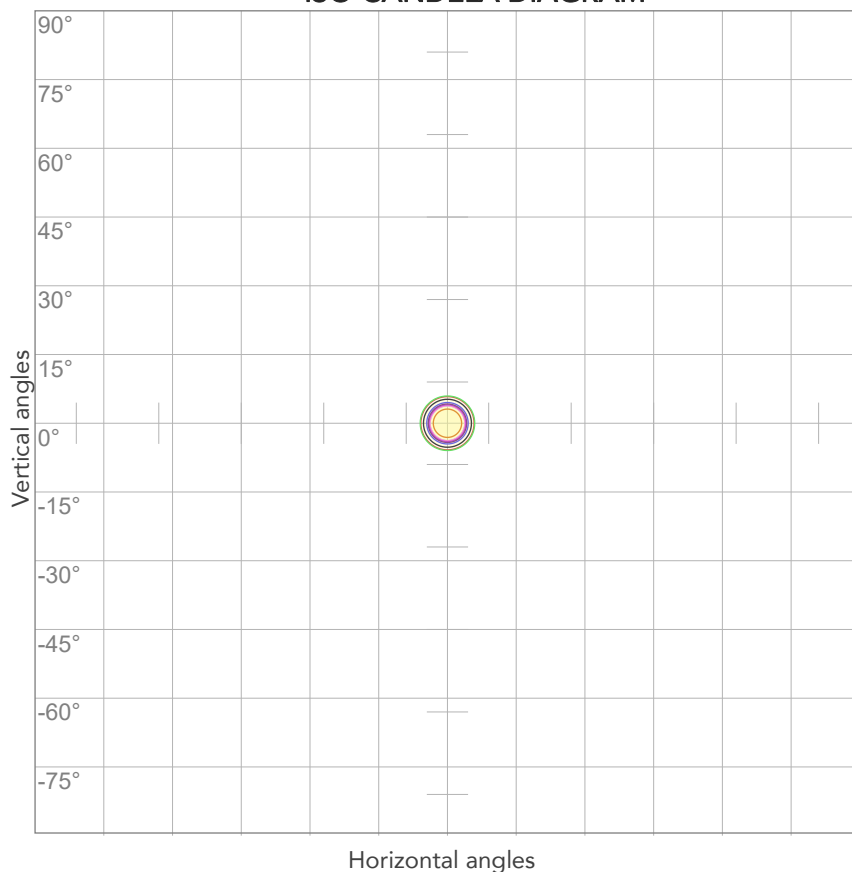
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

| Input voltage | Input current | Input power | Effeciency |
|---------------|---------------|-------------|------------|
| 228V          | 0,156A        | 32,7W       | 18lm/W     |

## ISO CANDELA DIAGRAM



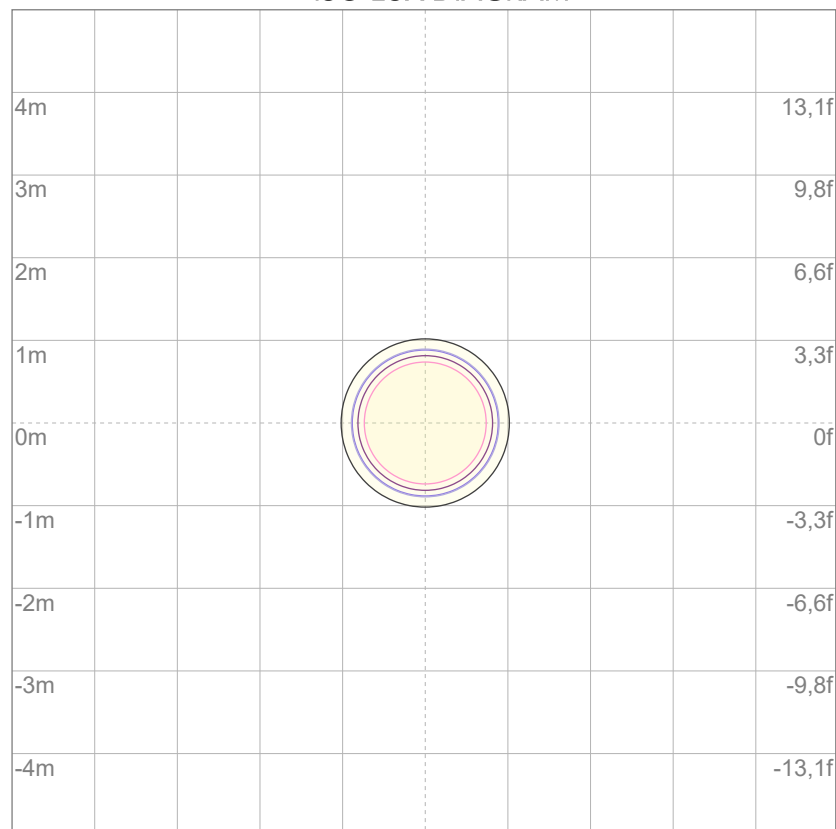
|     |          |
|-----|----------|
| 10% | 4178 cd  |
| 20% | 8355 cd  |
| 30% | 12533 cd |
| 40% | 16710 cd |
| 50% | 20888 cd |
| 60% | 25065 cd |
| 70% | 29243 cd |
| 80% | 33420 cd |

### Conditions:

Number of c-planes: 2

Candela at center: 41775 cd

## ISO LUX DIAGRAM



|     |         |
|-----|---------|
| 3%  | 12,5 lx |
| 5%  | 20,9 lx |
| 10% | 41,8 lx |
| 30% | 125 lx  |
| 50% | 209 lx  |

### Conditions:

Number of c-planes: 2

Lux at center: 418 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*



Total lumen output:

461 lm

Peak candela output:

33343 cd

Light quality:

CRI: 96,1

Color temperature:

2753 K

PRODUCT NAME:

ECLDISPLAYVW

MEASURAMENT CONDITIONS:

Beam angle:

Profile 8°

Target:

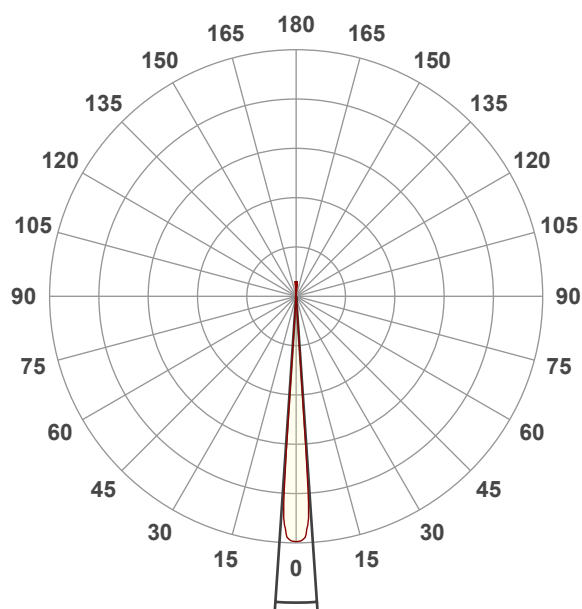
Warm White

Operator:

Paolo Carvone

Date and time:

03/04/2023 10:21:12

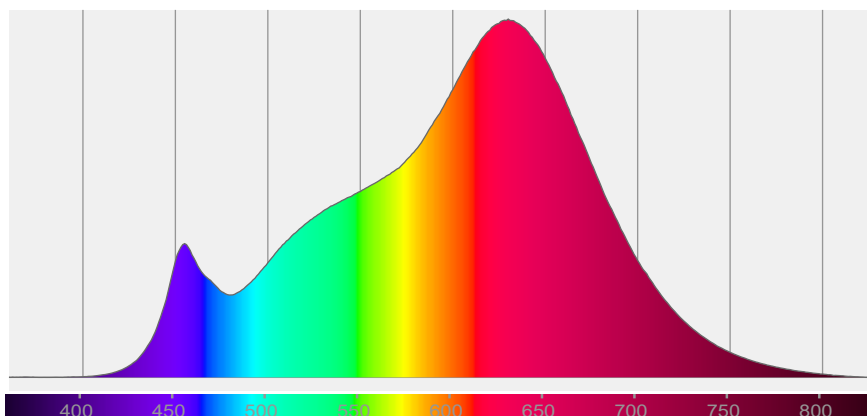


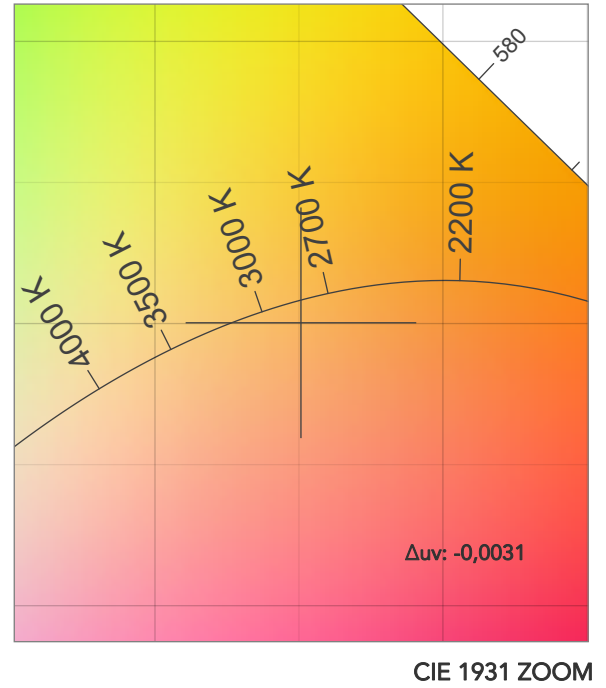
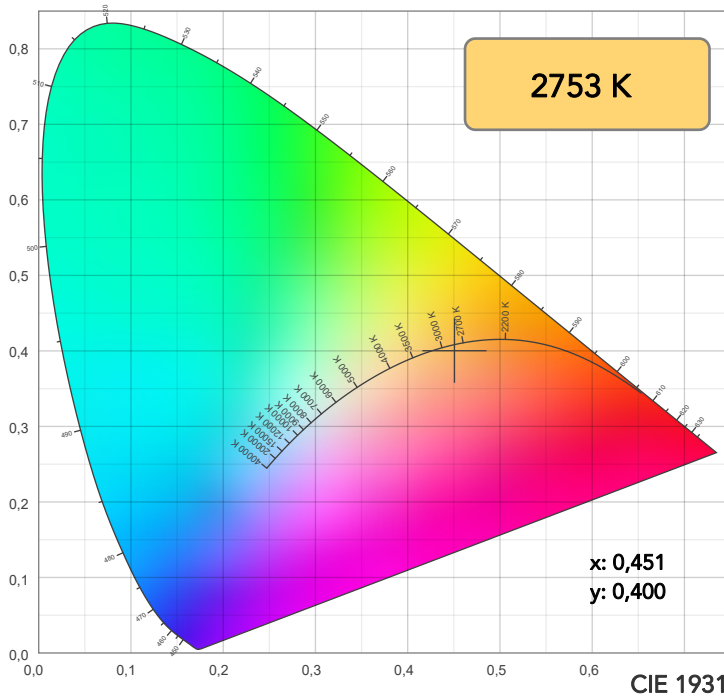
Beam angle 50%: 7,8°

Field angle 10%: 8,8°

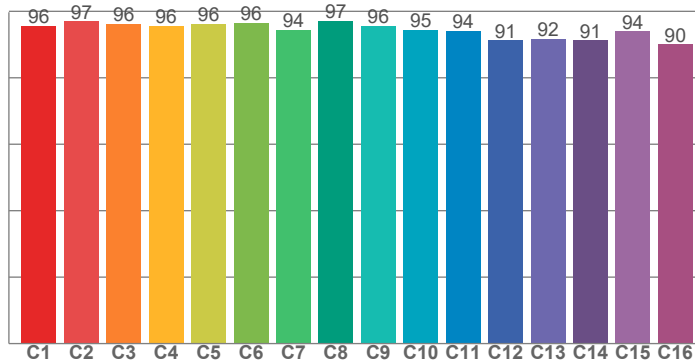
Cut off angle 2.5%: 9°

Spectra

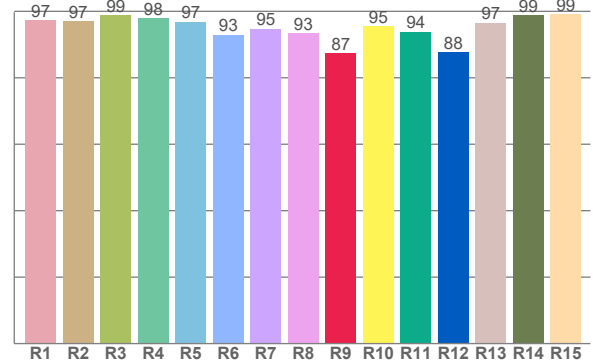




TM30: 94,7



CRI: 96,1 (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  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 97,3 | 97,1 | 98,8 | 97,9 | 96,9 | 92,9 | 94,7 | 93,4 | 87,3 | 95,5 | 93,9 | 87,6 | 96,6 | 98,8 | 99,0 |

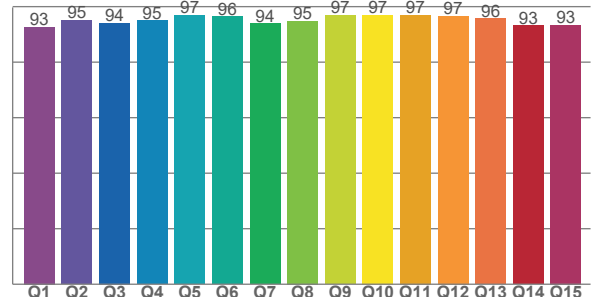
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 95,6 | 97,0 | 96,2 | 95,6 | 96,2 | 96,5 | 94,4 | 97,2 | 95,6 | 94,5 | 94,0 | 91,3 | 91,7 | 91,2 | 94,0 | 90,1 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 92,7 | 95,1 | 94,1 | 94,9 | 96,9 | 96,4 | 93,9 | 94,9 | 96,9 | 96,9 | 97,0 | 96,6 | 95,8 | 93,2 | 93,3 |

CQS: 94,9



## COLOR PARAMETERS

| Color temperature | Color rendering index | Red component | Color fidelity | Color gamut | Color quality scale | Television lighting index | Color coordinate cie 1931 | Color coordinate cie 1931 | Color deviation from black body |
|-------------------|-----------------------|---------------|----------------|-------------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------------|
| CCT               | CRI                   | CRI R9        | TM30 Rf        | TM30 Rg     | CQS                 | TLCI                      | x                         | y                         | $\Delta uv$                     |
| 2753 K            | 96,1                  | 87,3          | 94,7           | 101,2       | 94,9                | 96                        | 0,451                     | 0,400                     | -0,0031                         |

# TM30 DETAILS

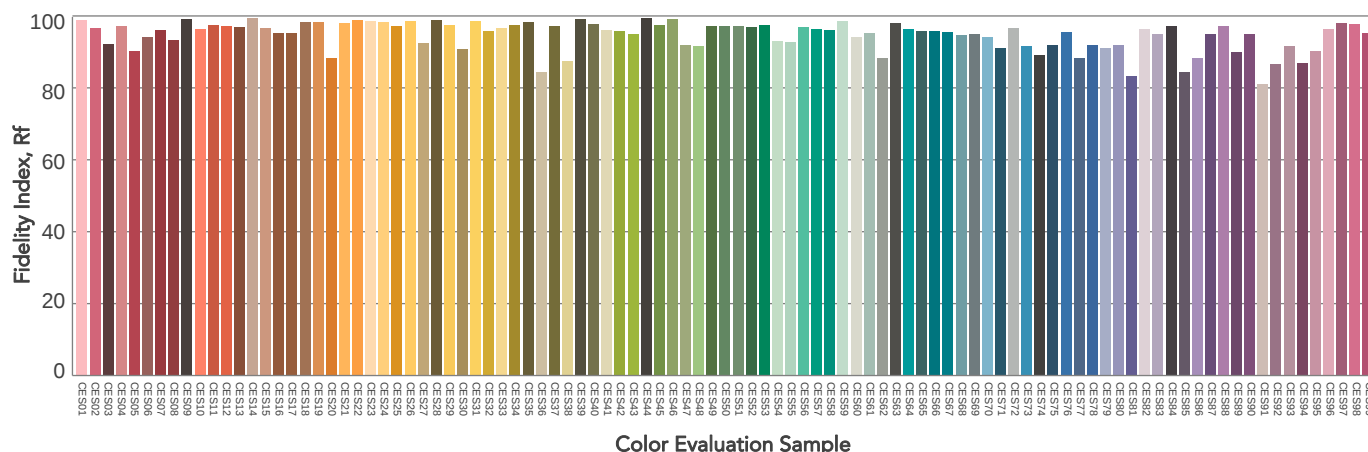
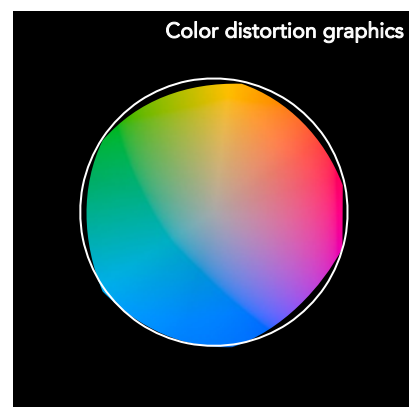
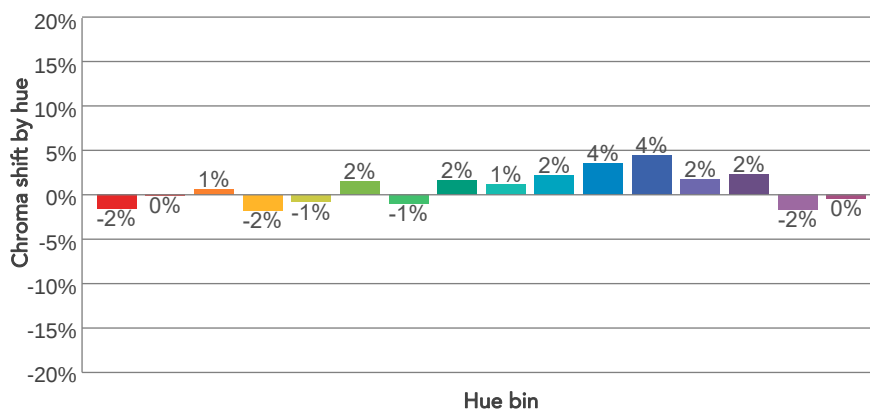
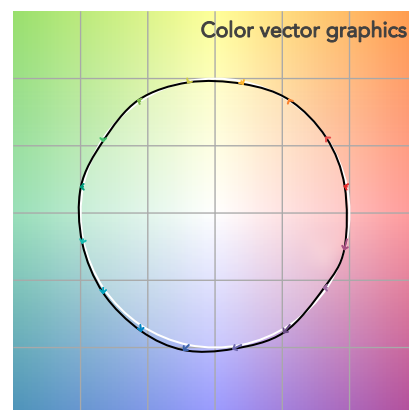
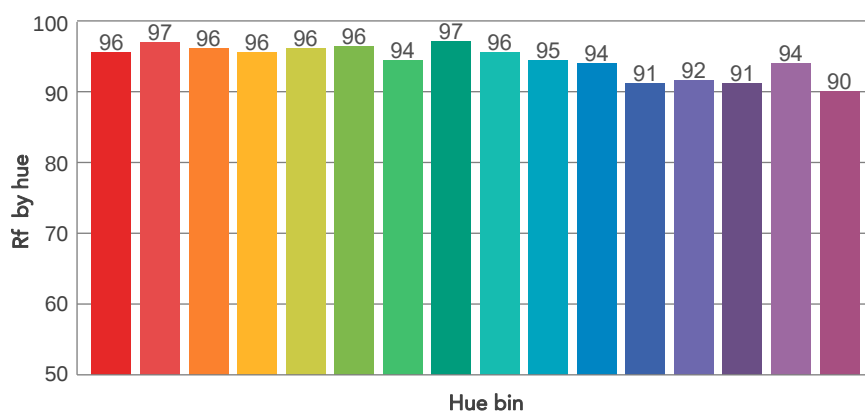
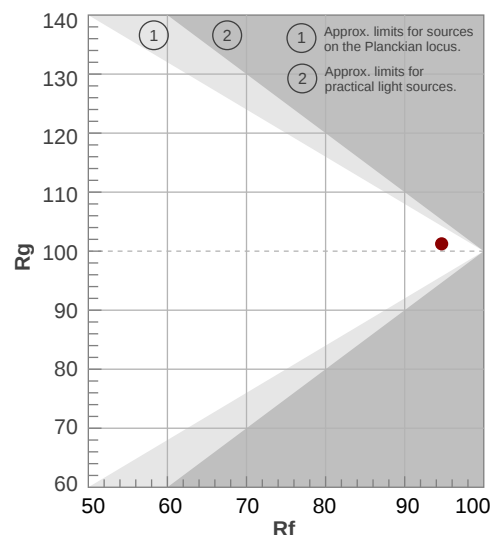
**Rf 94,7**

Fidelity index Rf

**Rg 101,2**

Gammut index

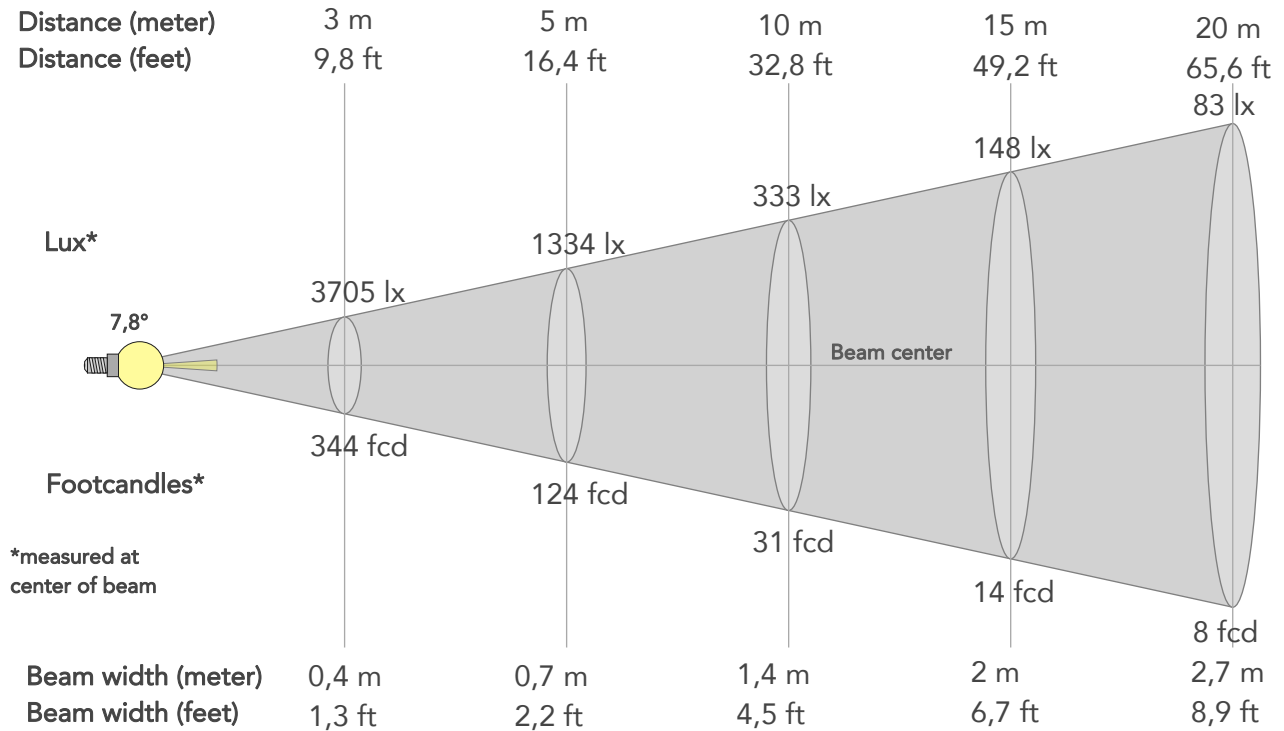
| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |     |
|---------|----------------|--------------------|-----|
|         |                | Chroma             | Hue |
| 1       | 96             | -2%                | 1%  |
| 2       | 97             | 0%                 | 1%  |
| 3       | 96             | 1%                 | 1%  |
| 4       | 96             | -2%                | -2% |
| 5       | 96             | -1%                | 1%  |
| 6       | 96             | 2%                 | 1%  |
| 7       | 94             | -1%                | 2%  |
| 8       | 97             | 2%                 | 0%  |
| 9       | 96             | 1%                 | 2%  |
| 10      | 95             | 2%                 | 3%  |
| 11      | 94             | 4%                 | 3%  |
| 12      | 91             | 4%                 | -3% |
| 13      | 92             | 2%                 | -6% |
| 14      | 91             | 2%                 | -7% |
| 15      | 94             | -2%                | -1% |
| 16      | 90             | 0%                 | -8% |



## BEAM DETAILS



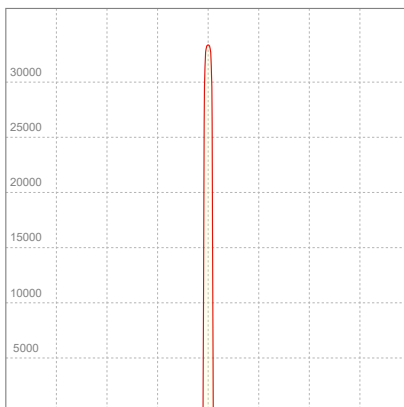
| Beam angle 50% | Field angle 10% | Cut off angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|--------------------|------------------------------|-----------------------------|
| 7,8°           | 8,8°            | 9°                 | 100,0%                       | 100,0%                      |



### BEAM INTENSITIES AND WIDTHS

| Distance  | 1m      | 2m     | 3m     | 4m     | 5m     | 7,5m   | 10m    | 15m    | 20m    | 25m    | 30m    | 40m     | 50m    |
|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| Distance  | 3,3ft   | 6,6ft  | 9,8ft  | 13,1ft | 16,4ft | 24,6ft | 32,8ft | 49,2ft | 65,6ft | 82ft   | 98,4ft | 131,2ft | 164ft  |
| Lux       | 33343lx | 8336lx | 3705lx | 2084lx | 1334lx | 593lx  | 333lx  | 148lx  | 83lx   | 53lx   | 37lx   | 21lx    | 13lx   |
| Footcand. | 3098fcd | 774fcd | 344fcd | 194fcd | 124fcd | 55fcd  | 31fcd  | 14fcd  | 8fcd   | 5fcd   | 3fcd   | 2fcd    | 1fcd   |
| Beam wid. | 0,1m    | 0,3m   | 0,4m   | 0,5m   | 0,7m   | 1m     | 1,4m   | 2m     | 2,7m   | 3,4m   | 4,1m   | 5,4m    | 6,8m   |
| Beam wid. | 0,4ft   | 0,9ft  | 1,3ft  | 1,8ft  | 2,2ft  | 3,3ft  | 4,5ft  | 6,7ft  | 8,9ft  | 11,1ft | 13,4ft | 17,8ft  | 22,3ft |

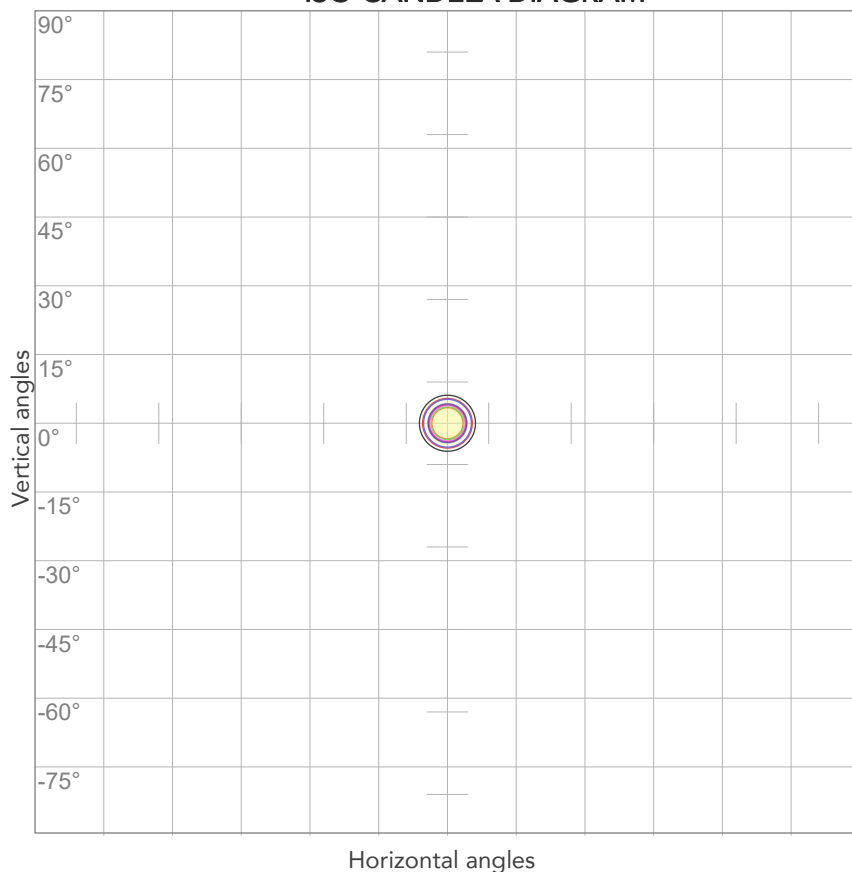
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

| Input voltage | Input current | Input power | Effeciency |
|---------------|---------------|-------------|------------|
| 225V          | 0,154A        | 32,0W       | 14lm/W     |

## ISO CANDELA DIAGRAM



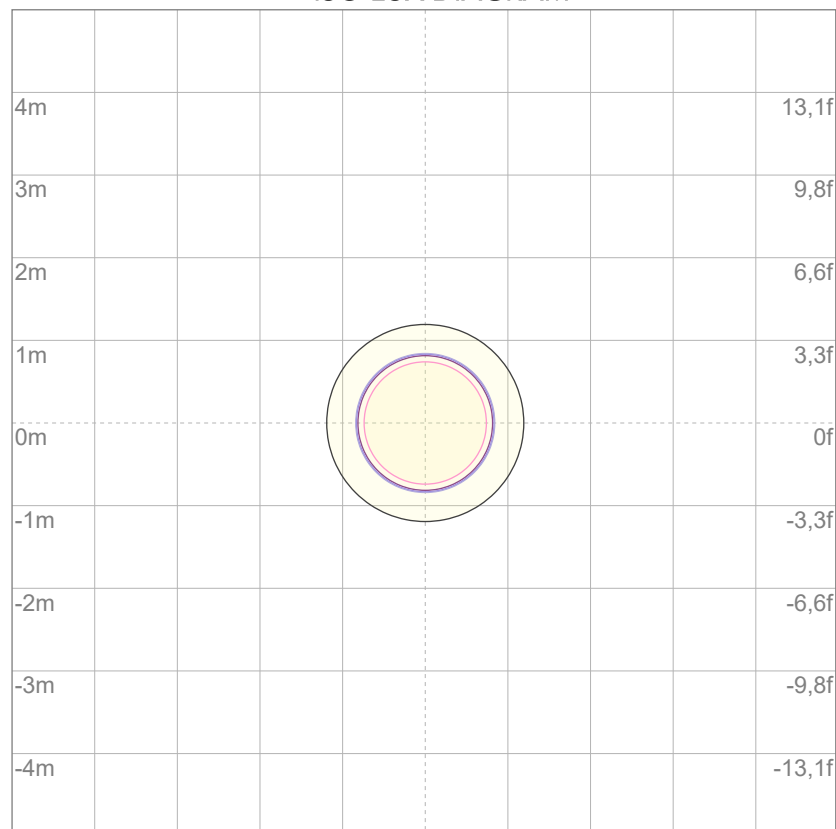
|     |          |
|-----|----------|
| 10% | 3334 cd  |
| 20% | 6669 cd  |
| 30% | 10003 cd |
| 40% | 13337 cd |
| 50% | 16672 cd |
| 60% | 20006 cd |
| 70% | 23340 cd |
| 80% | 26675 cd |

### Conditions:

Number of c-planes: 2

Candela at center: 33343 cd

## ISO LUX DIAGRAM



|     |         |
|-----|---------|
| 3%  | 10,0 lx |
| 5%  | 16,7 lx |
| 10% | 33,3 lx |
| 30% | 100 lx  |
| 50% | 167 lx  |

### Conditions:

Number of c-planes: 2

Lux at center: 333 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*



Total lumen output:

641 lm

Peak candela output:

45174 cd

Light quality:

CRI: 96,5

Color temperature:

5504 K

**PRODUCT NAME:**

ECLDISPLAYVW

**MEASURAMENT CONDITIONS:**

Beam angle:

Profile 8°

Target:

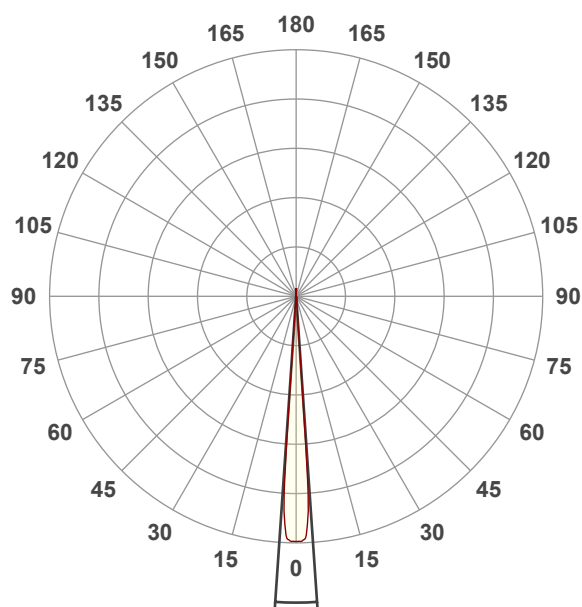
Cold White

Operator:

Paolo Carvone

Date and time:

03/04/2023 10:19:47

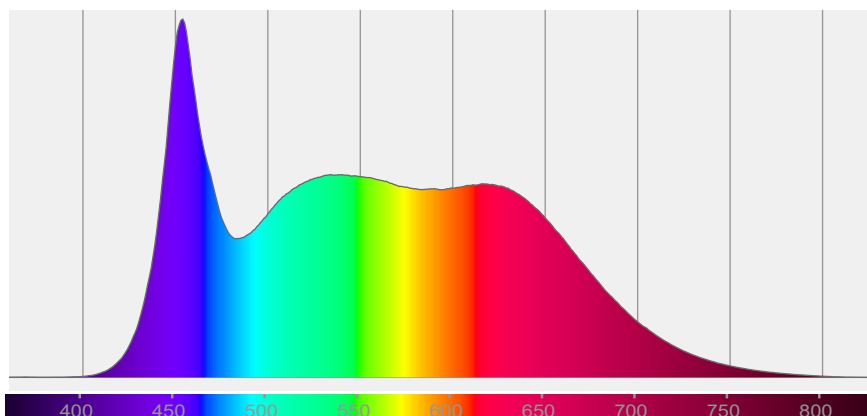


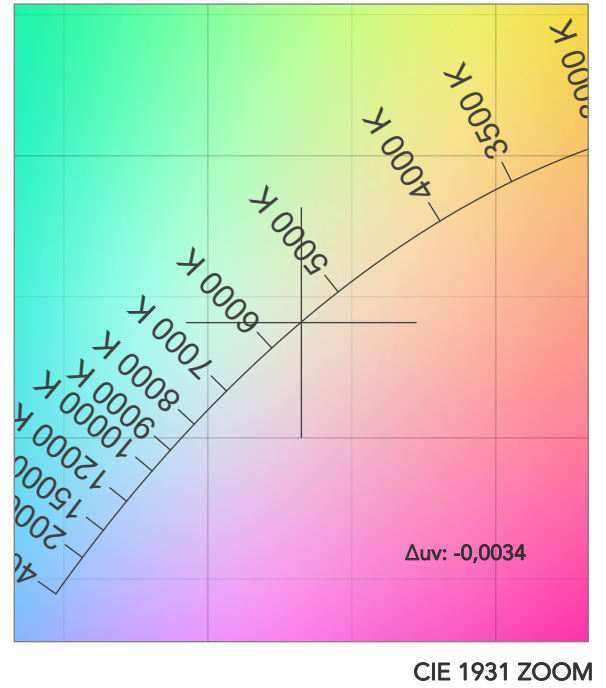
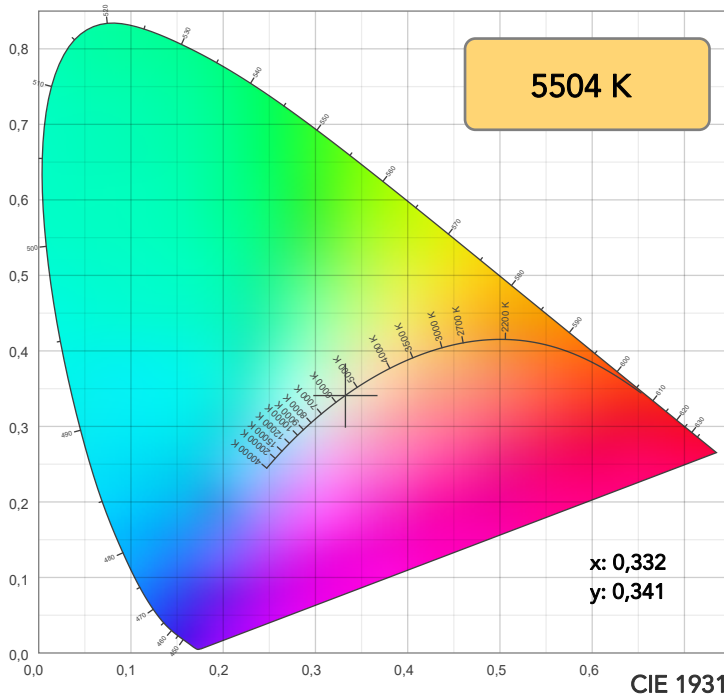
Beam angle 50%: 7,8°

Field angle 10%: 8,9°

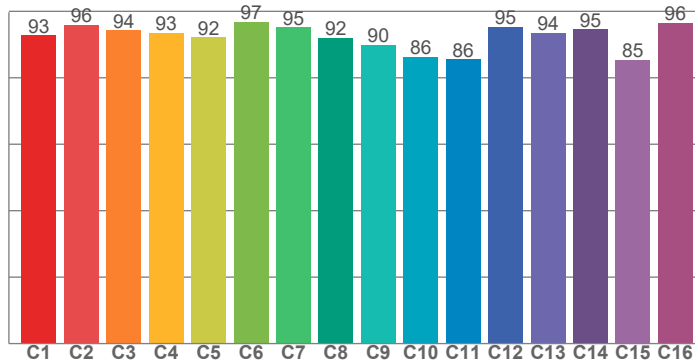
Cut off angle 2.5%: 9,6°

**Spectra**

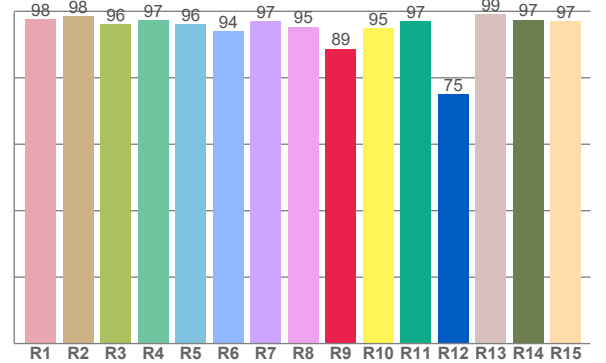




TM30: 92,2



CRI: 96,5 (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  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 97,6 | 98,4 | 96,0 | 97,3 | 96,2 | 94,1 | 97,0 | 95,3 | 88,8 | 94,8 | 97,1 | 75,1 | 99,1 | 97,5 | 97,1 |

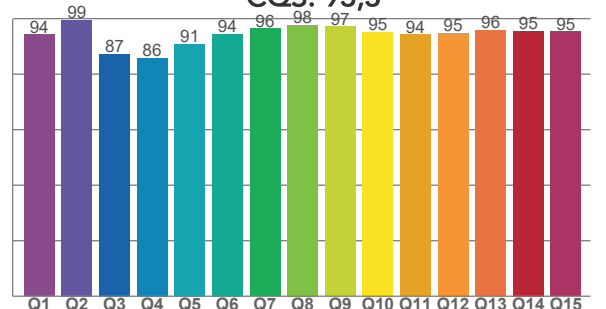
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 92,7 | 96,0 | 94,3 | 93,5 | 92,2 | 96,8 | 95,2 | 92,0 | 90,0 | 86,2 | 85,5 | 95,3 | 93,5 | 94,5 | 85,5 | 96,5 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 94,3 | 99,4 | 87,3 | 85,8 | 90,9 | 94,5 | 96,4 | 97,6 | 97,2 | 95,2 | 94,3 | 94,9 | 95,8 | 95,5 | 95,4 |

CQS: 93,3



## COLOR PARAMETERS

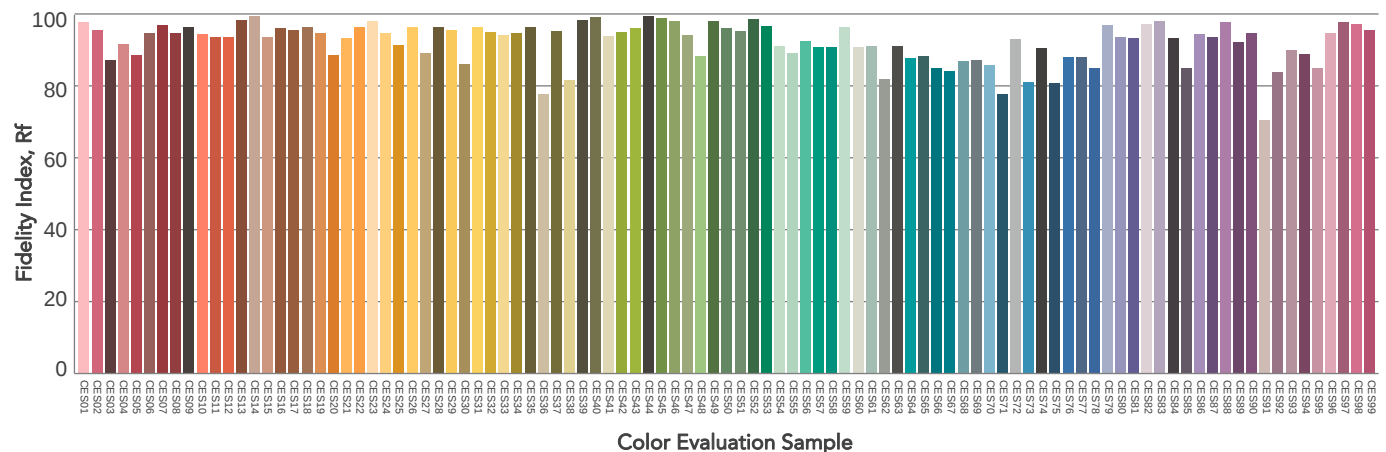
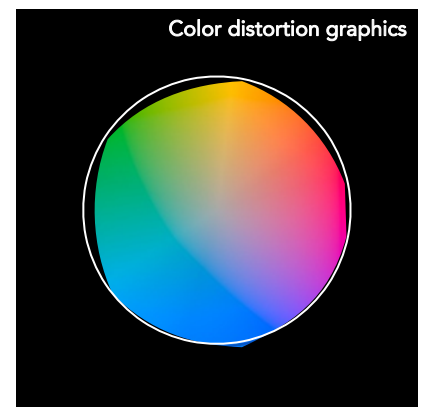
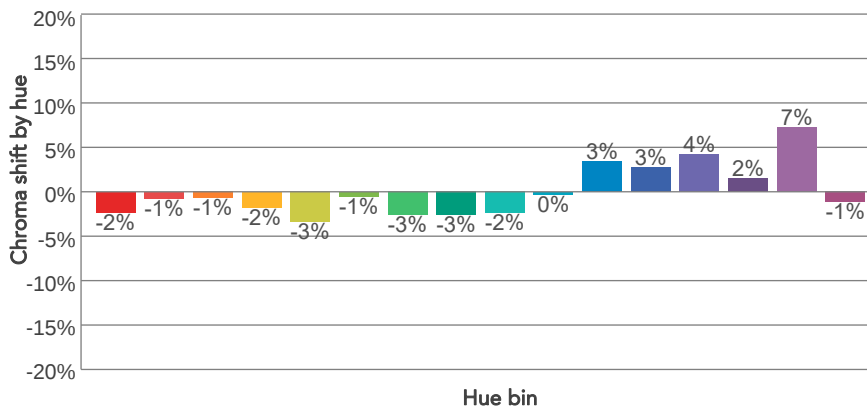
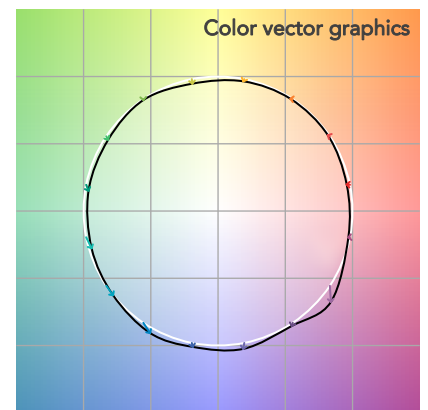
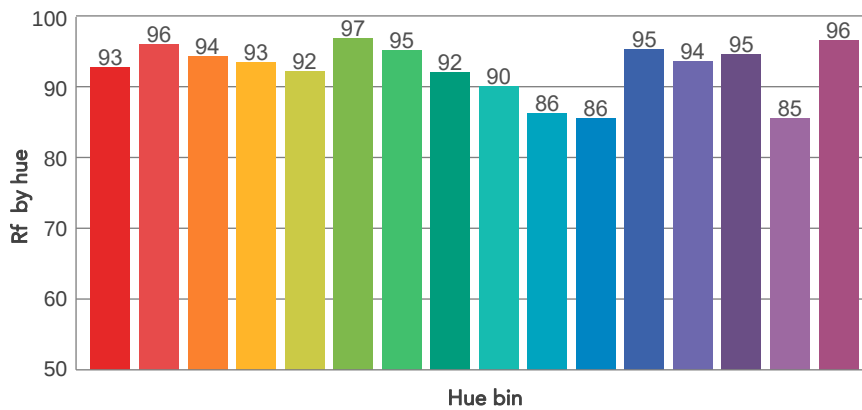
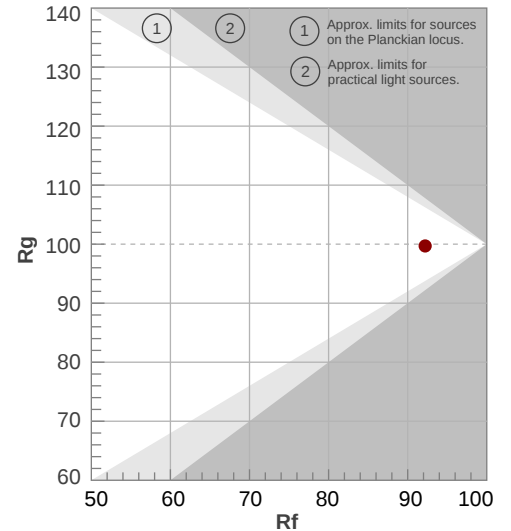
| Color temperature | Color rendering index | Red component | Color fidelity | Color gamut | Color quality scale | Television lighting index | Color coordinate cie 1931 | Color coordinate cie 1931 | Color deviation from black body |
|-------------------|-----------------------|---------------|----------------|-------------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------------|
| CCT               | CRI                   | CRI R9        | TM30 Rf        | TM30 Rg     | CQS                 | TLCI                      | x                         | y                         | Δuv                             |
| 5504 K            | 96,5                  | 88,8          | 92,2           | 99,7        | 93,3                | 97                        | 0,332                     | 0,341                     | -0,0034                         |

# TM30 DETAILS

**Rf 92,2**  
Fidelity index Rf

**Rg 99,7**  
Gammut index

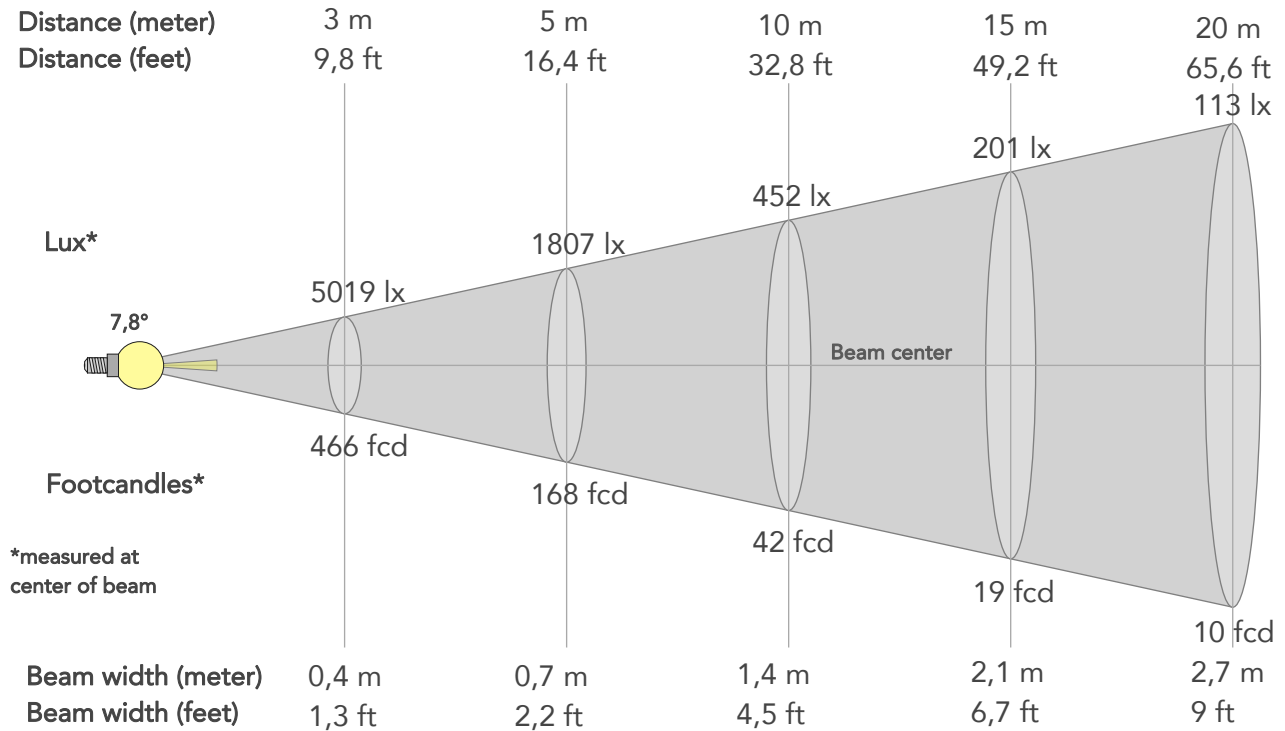
| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |      |
|---------|----------------|--------------------|------|
|         |                | Chroma             | Hue  |
| 1       | 93             | -2%                | 1%   |
| 2       | 96             | -1%                | 2%   |
| 3       | 94             | -1%                | 2%   |
| 4       | 93             | -2%                | 0%   |
| 5       | 92             | -3%                | 0%   |
| 6       | 97             | -1%                | 0%   |
| 7       | 95             | -3%                | 1%   |
| 8       | 92             | -3%                | 4%   |
| 9       | 90             | -2%                | 9%   |
| 10      | 86             | 0%                 | 9%   |
| 11      | 86             | 3%                 | 8%   |
| 12      | 95             | 3%                 | 1%   |
| 13      | 94             | 4%                 | -2%  |
| 14      | 95             | 2%                 | -2%  |
| 15      | 85             | 7%                 | -10% |
| 16      | 96             | -1%                | 0%   |



## BEAM DETAILS



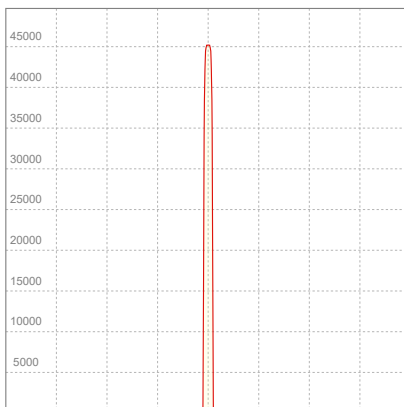
| Beam angle 50% | Field angle 10% | Cut off angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|--------------------|------------------------------|-----------------------------|
| 7,8°           | 8,9°            | 9,6°               | 100,0%                       | 100,0%                      |



### BEAM INTENSITIES AND WIDTHS

| Distance  | 1m      | 2m      | 3m     | 4m     | 5m     | 7,5m   | 10m    | 15m    | 20m    | 25m    | 30m    | 40m     | 50m    |
|-----------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| Distance  | 3,3ft   | 6,6ft   | 9,8ft  | 13,1ft | 16,4ft | 24,6ft | 32,8ft | 49,2ft | 65,6ft | 82ft   | 98,4ft | 131,2ft | 164ft  |
| Lux       | 45174lx | 11293lx | 5019lx | 2823lx | 1807lx | 803lx  | 452lx  | 201lx  | 113lx  | 72lx   | 50lx   | 28lx    | 18lx   |
| Footcand. | 4197fcd | 1049fcd | 466fcd | 262fcd | 168fcd | 75fcd  | 42fcd  | 19fcd  | 10fcd  | 7fcd   | 5fcd   | 3fcd    | 2fcd   |
| Beam wid. | 0,1m    | 0,3m    | 0,4m   | 0,5m   | 0,7m   | 1m     | 1,4m   | 2,1m   | 2,7m   | 3,4m   | 4,1m   | 5,5m    | 6,8m   |
| Beam wid. | 0,5ft   | 0,9ft   | 1,3ft  | 1,8ft  | 2,2ft  | 3,4ft  | 4,5ft  | 6,7ft  | 9ft    | 11,2ft | 13,5ft | 18ft    | 22,4ft |

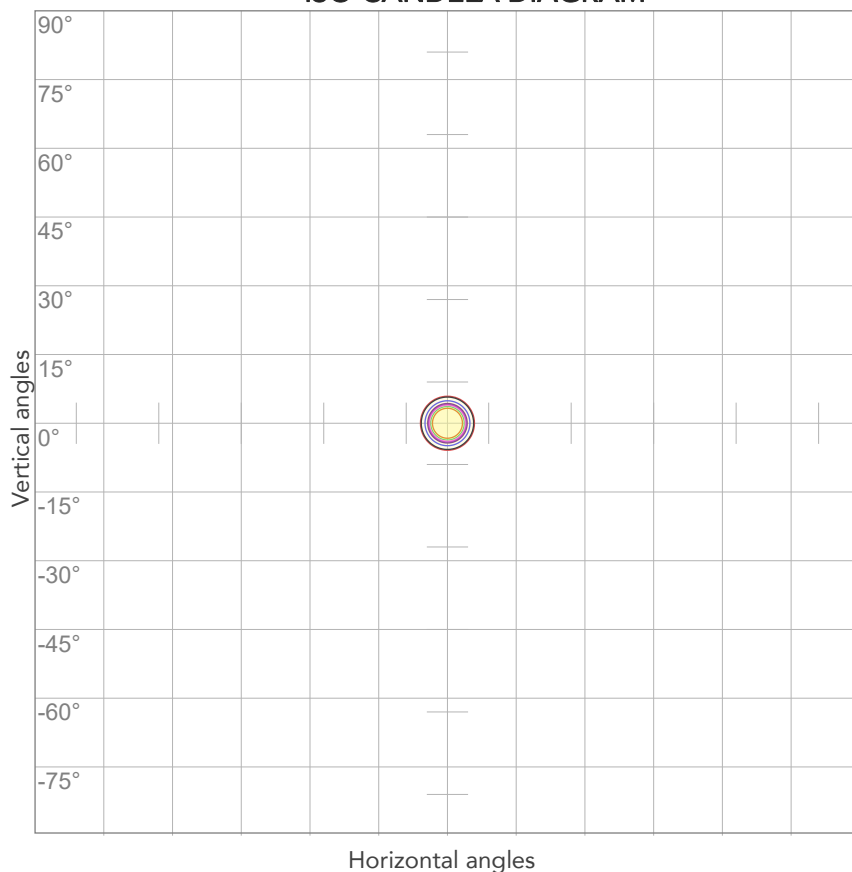
### LINEAR DISTRIBUTION DIAGRAM



### ELECTRICAL SPECIFICATIONS

| Input voltage | Input current | Input power | Effeciency |
|---------------|---------------|-------------|------------|
| 225V          | 0,156A        | 32,6W       | 20lm/W     |

## ISO CANDELA DIAGRAM



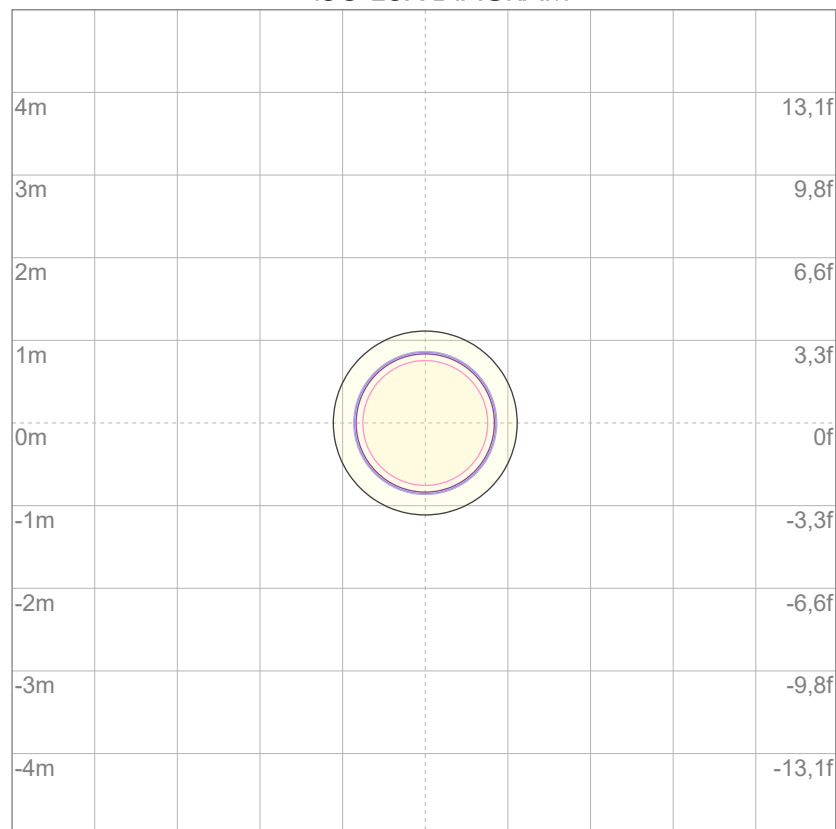
|     |          |
|-----|----------|
| 10% | 4517 cd  |
| 20% | 9035 cd  |
| 30% | 13552 cd |
| 40% | 18070 cd |
| 50% | 22587 cd |
| 60% | 27104 cd |
| 70% | 31622 cd |
| 80% | 36139 cd |

### Conditions:

Number of c-planes: 2

Candela at center: 45174 cd

## ISO LUX DIAGRAM



|     |         |
|-----|---------|
| 3%  | 13,6 lx |
| 5%  | 22,6 lx |
| 10% | 45,2 lx |
| 30% | 136 lx  |
| 50% | 226 lx  |

### Conditions:

Number of c-planes: 2

Lux at center: 452 lx

*Lux distribution on a surface when lamp is mounted at 10 meters from the surface.*