



Proteus Lucius

Photometric Test Report

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Testing Process

Total Lumen Measurements

Lumens are measured using a Viso Systems Lab Spion and a 2π Integrating Sphere. As a goniophotometer, the Viso calculates the field lumens of the fixture by taking multiple measurements across the light beam. The measured lumens of the 2π Integrating Sphere tends to be higher than the Viso goniophotometer due to a variety of differences in measurement principles. Therefore, sometimes both values are provided in the report.

Many lumens figures provided for entertainment lighting fixtures are only the 2π sphere values, some even emphasize the LED engine lumens. All Elation product photometric data is the actual light output from the fixture lens, never a theoretical value based on calculation or using the source lumens as the fixtures output. We advise to always compare total fixture lumens acquired with identical measurement systems when comparing lighting fixtures.

Test Lab Equipment and Process

Elation operates an optical testing laboratory at its Los Angeles, CA headquarters to provide accurate photometric data for its lighting products. The testing lab is both light and climate- controlled and contains a variety of precise lighting measurement systems. Fixtures are analyzed with the sophisticated [Viso Systems Lab Spion](#) equipment, which measures all light and color parameters by panning the light beam at a precise speed and from different angles through a calibrated, laser aligned light and color sensor. Test data is collected and summarized by the Viso Light Inspector software. This type of measurement system is referred to as a Goniophotometer.

The Viso software calculates all relevant types of measurements, from beam angles, candela to center light intensity at a variety of distances to the latest color quality measurements like TM30 or CQS as well as accurate color temperature. This wealth of data is then processed by an Elation specific template which is included in the photometric test report for various fixture conditions such as zoom angles and color correction filters.

The Viso software also creates IES (Illuminating Engineering Society) files for each test report. IES is an industry standard file format created for the easy electronic transfer of photometric test data, which is widely used by lighting manufacturers for photometric data distribution.

Fixtures are also analyzed using an 2π Integrating Sphere. This technique takes the output of the fixture and measures the amount of light inside a sealed perfect sphere. Due to the size of most fixtures they shine into an opening on the side of the sphere. A sensor is mounted behind a glare shield to avoid direct light input and a very short measurement is taken to gather the total lumens within the sphere. Due to different measurement principles, distortion and measurement uncertainties, there is a difference in these results.

Additionally, fixtures are periodically rechecked for accuracy using various hand-held light meters including one or more of the devices listed below. This is done to ensure the test data contained in this report is as accurate as possible.

[Asenstek Lighting Passport](#) | [Konica Minolta T-10](#) | [Sekonic C700T](#)

Photometric Report

Total Lumen Output*

VISO Lab Spion 21699 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
6°	7.6°	7.9°

Color Temperature: 6561 K

CRI: 71.2

TLCI: 47

TM30: 71.3

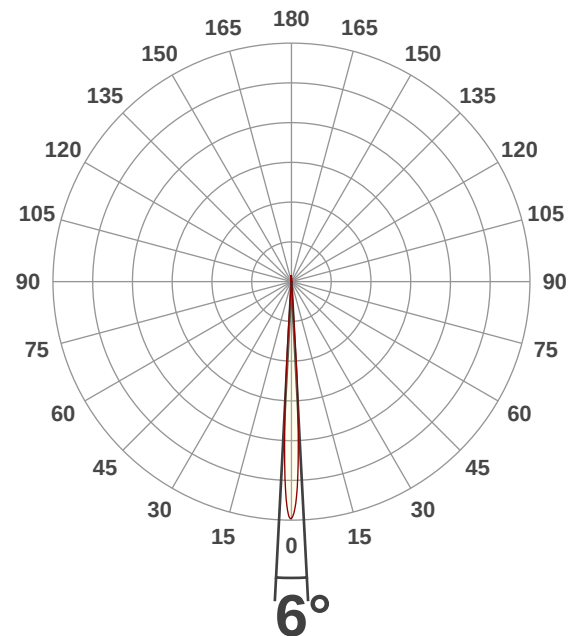
CQS: 68.3

Voltage: 116 V, Current: 7.79 A

Power: 904 W

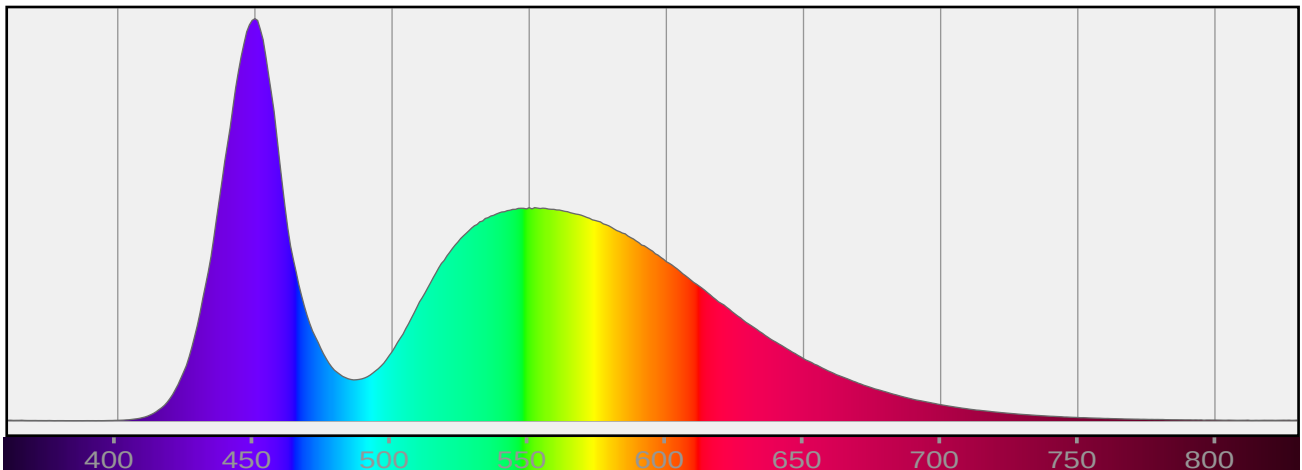
Efficacy: 24 Lumen/Watt

Measurement Date: 6/11/2020



Spectral Distribution

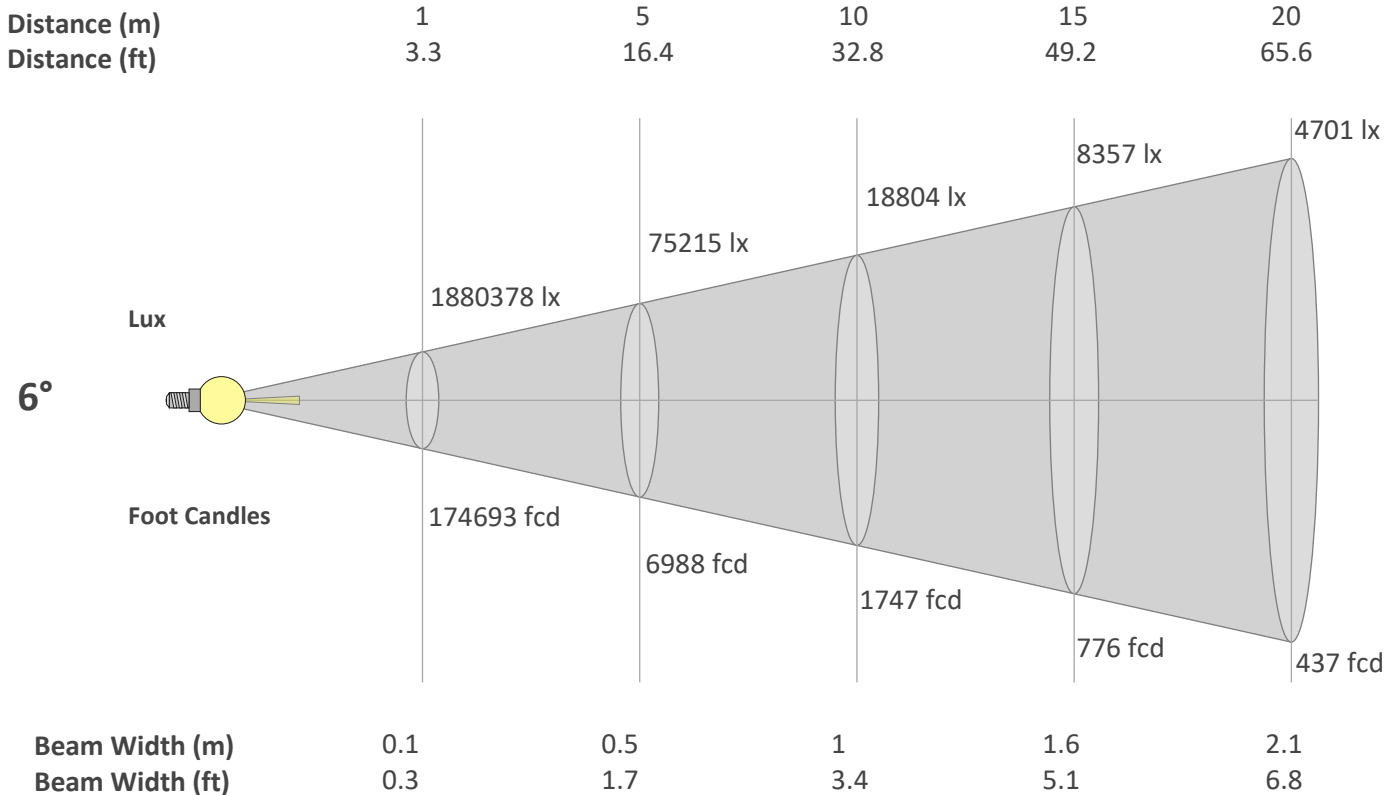
Dominant Wavelength 360 nm



*Total Lumen measurements by calibrated Everfine 2π Integrating Sphere and Viso Systems Lab Spion

Beam Details

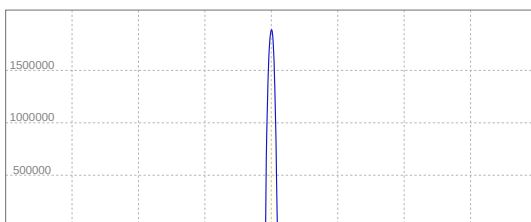
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
6°	7.6°	7.9°



Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	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
LX	1880378	470095	208931	117524	75215	52233	38375	29381	23215	18804	15540	13058	11126	9594	8357	7345	6506	5804	5209	4701
FC	174692.9	43673.2	19410.3	10918.3	6987.7	4852.6	3565.2	2729.6	2156.7	1746.9	1443.7	1213.1	1033.7	891.3	776.4	682.4	604.5	539.2	483.9	436.7

Linear Distribution



Peak Candela

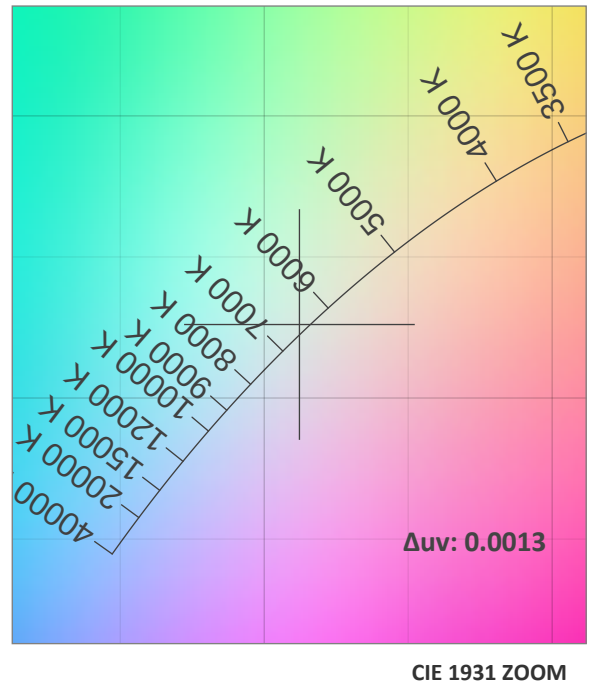
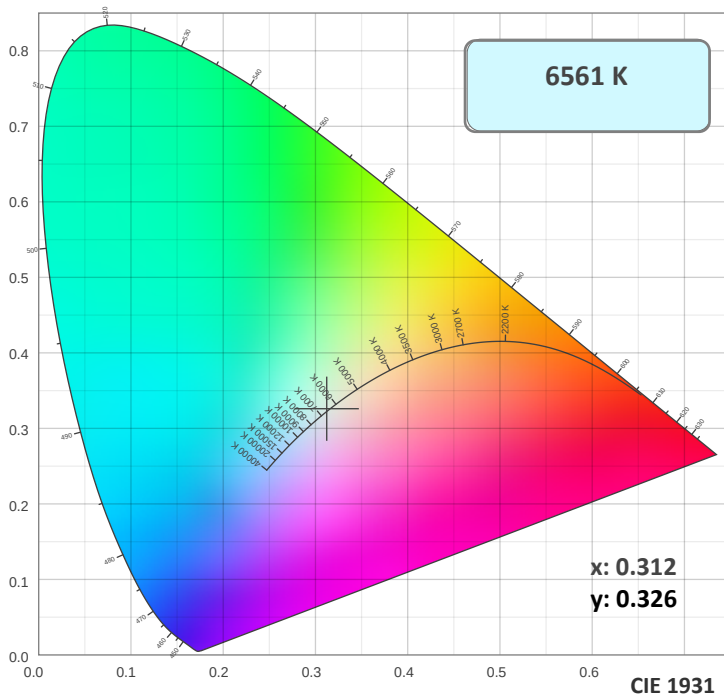
1886675 cd

Calculate Center Beam Intensities

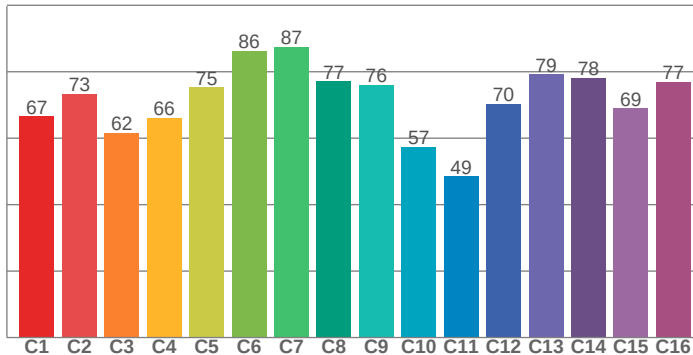
$$\text{lux} = 1886675 / \text{distance(m)}^2$$

$$\text{fc} = 1886675 / \text{distance(ft)}^2$$

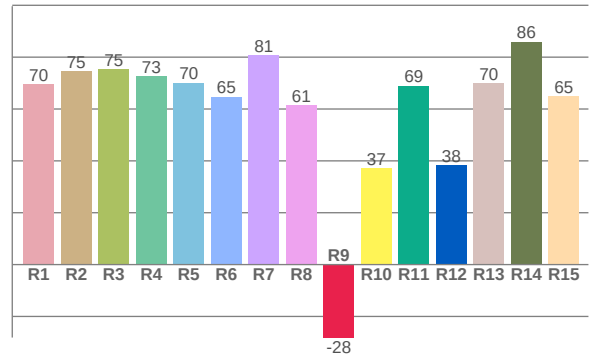
Color Details



TM30: 71.3



CRI: 71.2 (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
69.5	74.7	75.3	72.7	70.2	64.7	80.8	61.4	-28.1	37.1	69.0	38.4	70.0	85.9	65.0

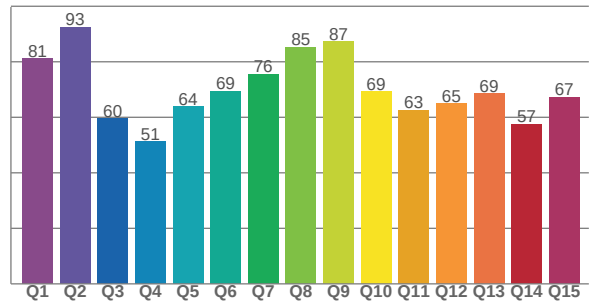
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66.6	73.3	61.6	66.2	75.3	86.3	87.5	77.1	76.0	57.5	48.5	70.3	79.3	78.2	68.9	77.0

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81.1	92.5	59.6	51.2	63.9	69.4	75.6	85.3	87.3	69.3	62.6	64.9	68.6	57.5	67.2

CQS: 68.3



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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6561 K	71.2	-28.1	71.3	92.6	68.3	0.312	0.326	0.199	0.311	0.0013

TM30 Details

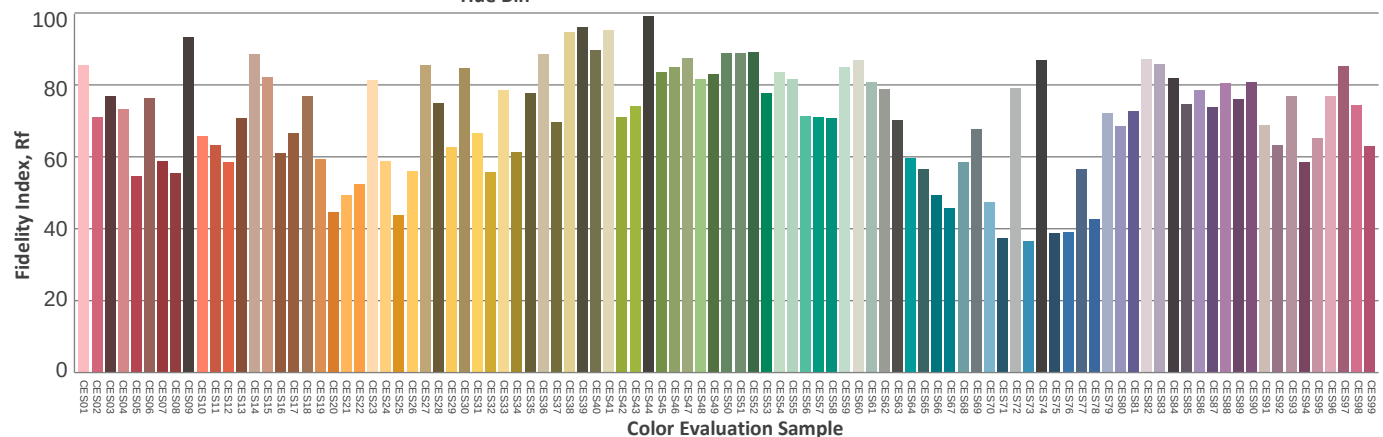
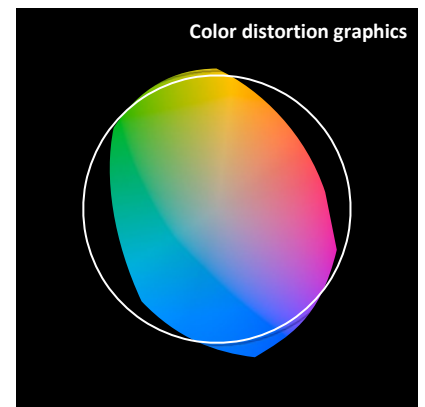
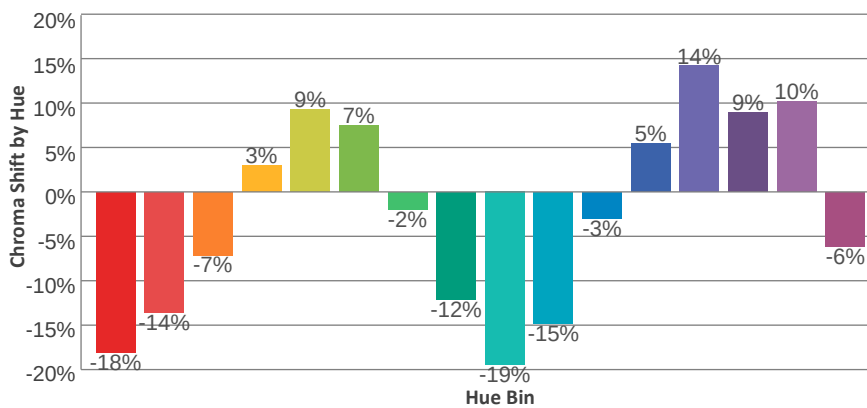
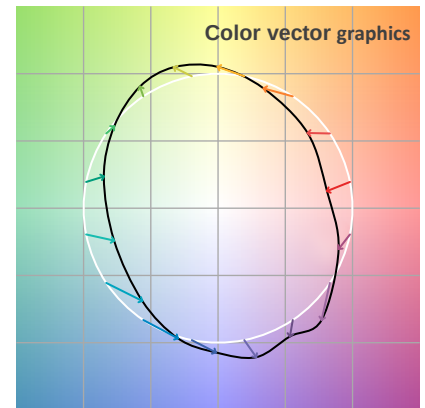
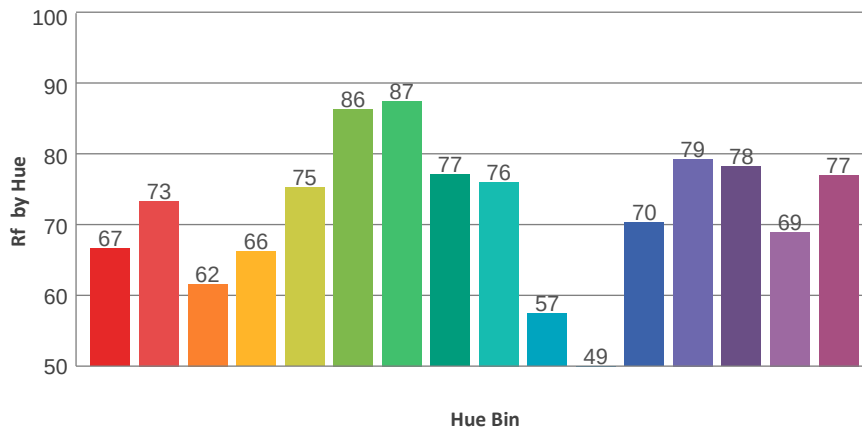
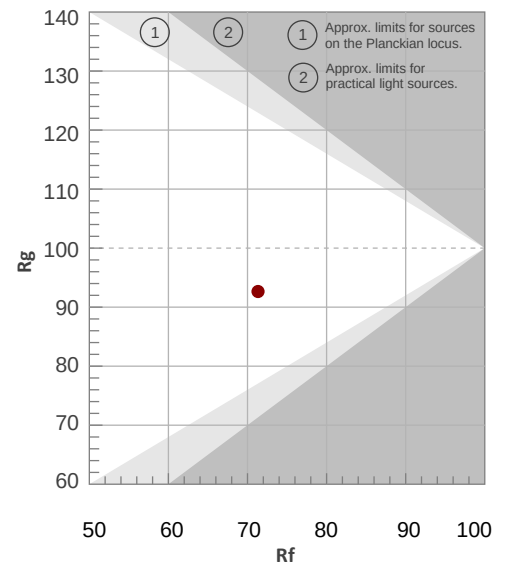
Rf 71.3

Fidelity Index Rf

Rg 92.6

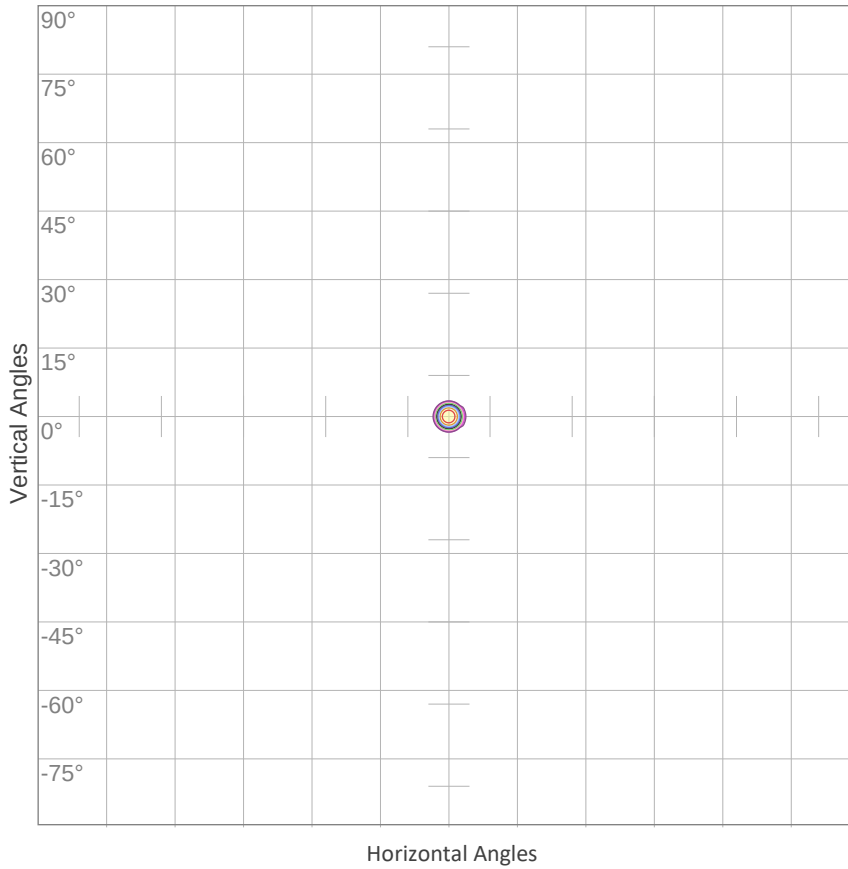
Gamut Index Rg

Hue Bin	R_i	Graphic shifts (%)	
		Chroma	Hue
1	67	-18%	-3%
2	73	-14%	9%
3	62	-7%	21%
4	66	3%	21%
5	75	9%	12%
6	86	7%	-2%
7	87	-2%	-8%
8	77	-12%	-7%
9	76	-19%	9%
10	57	-15%	26%
11	49	-3%	29%
12	70	5%	19%
13	79	14%	6%
14	78	9%	-9%
15	69	10%	-26%
16	77	-6%	-12%



ISO Diagrams

ISO Candela Diagram



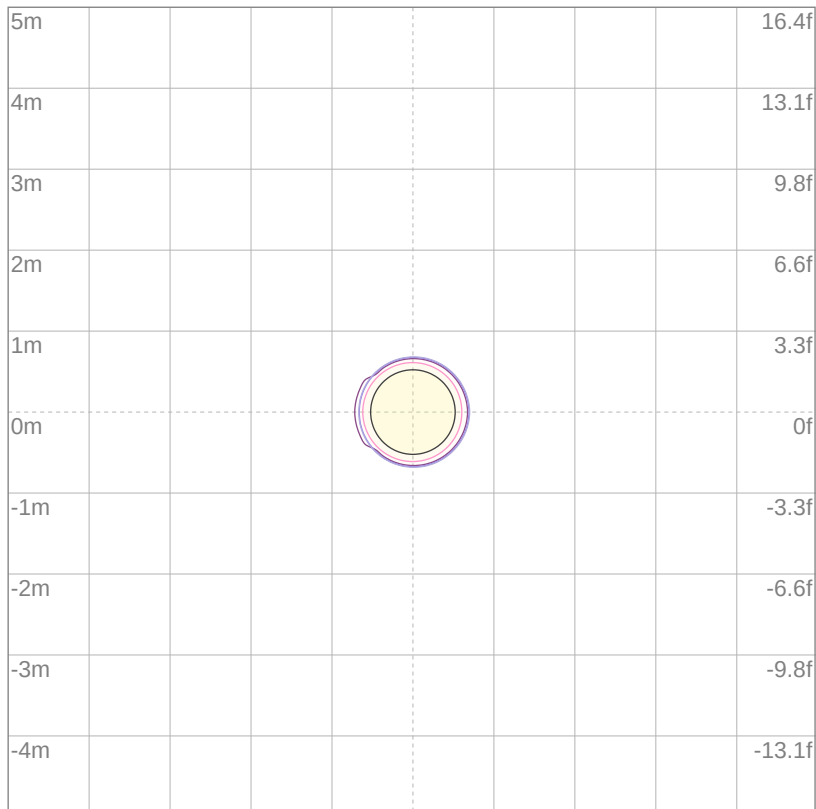
10%	188038 cd
20%	376076 cd
30%	564114 cd
40%	752151 cd
50%	940189 cd
60%	1128227 cd
70%	1316265 cd
80%	1504303 cd
90%	1692341 cd

Conditions:

Number of c-planes: 2

Candela at center: 1880378 cd

ISO Lux Diagram



3%	564 lx
5%	940 lx
10%	1880 lx
30%	5641 lx
50%	9402 lx

Conditions:

Number of c-planes: 2

Lux at center: 18.8K lx

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

Mounting Height: 10 meters (33 feet)

Photometric Report

Total Lumen Output*

VISO Lab Spion 33514 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
13.2°	18.1°	19.5°

Color Temperature: 6611 K

CRI: 70.8

TLCI: 46

TM30: 70.8

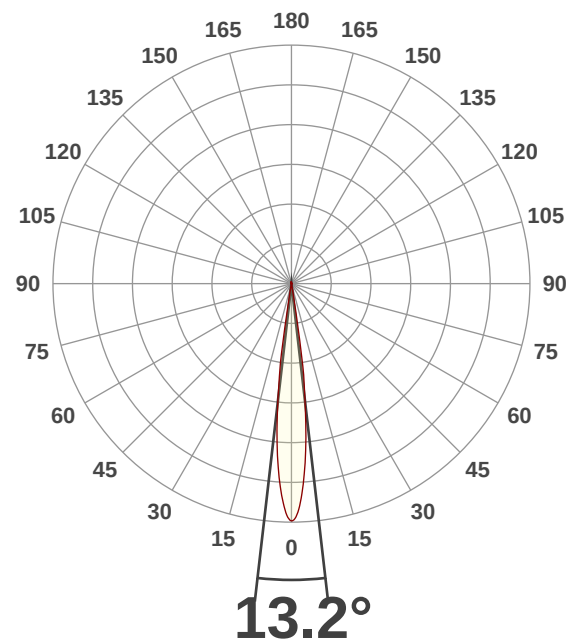
CQS: 67.9

Voltage: 116 V, Current: 7.85 A

Power: 910 W

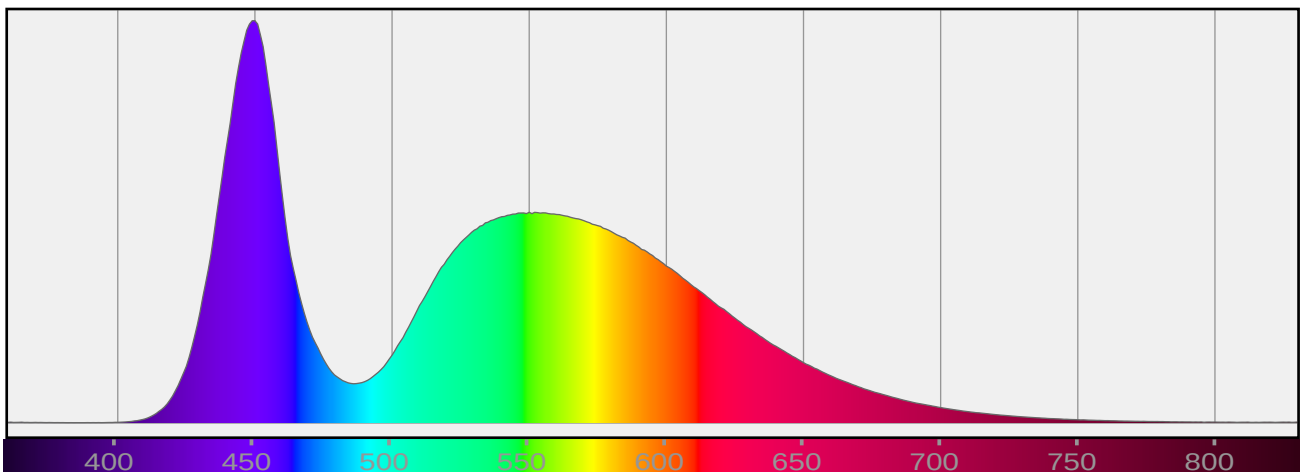
Efficacy: 37 Lumen/Watt

Measurement Date: 6/11/2020



Spectral Distribution

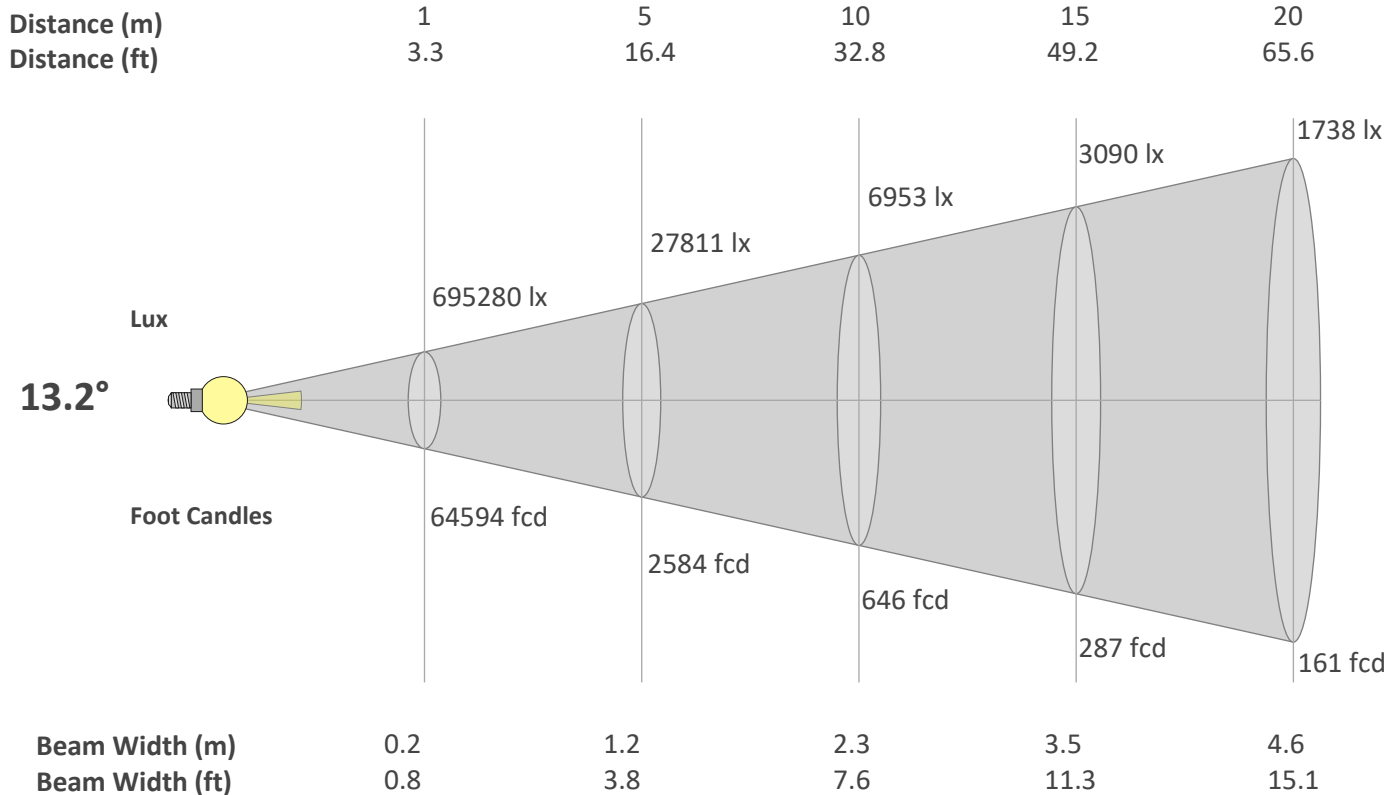
Dominant Wavelength 360 nm



*Total Lumen measurements by calibrated Everfine 2π Integrating Sphere and Viso Systems Lab Spion

Beam Details

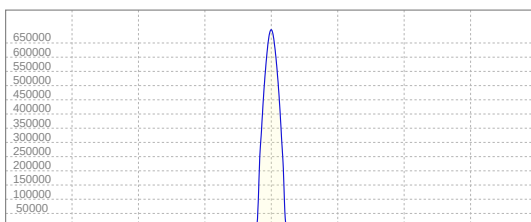
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
13.2°	18.1°	19.5°



Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	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
LX	695280	173820	77253	43455	27811	19313	14189	10864	8584	6953	5746	4828	4114	3547	3090	2716	2406	2146	1926	1738
FC	64593.6	16148.4	7177.1	4037.1	2583.7	1794.3	1318.2	1009.3	797.5	645.9	533.8	448.6	382.2	329.6	287.1	252.3	223.5	199.4	178.9	161.5

Linear Distribution



Peak Candela

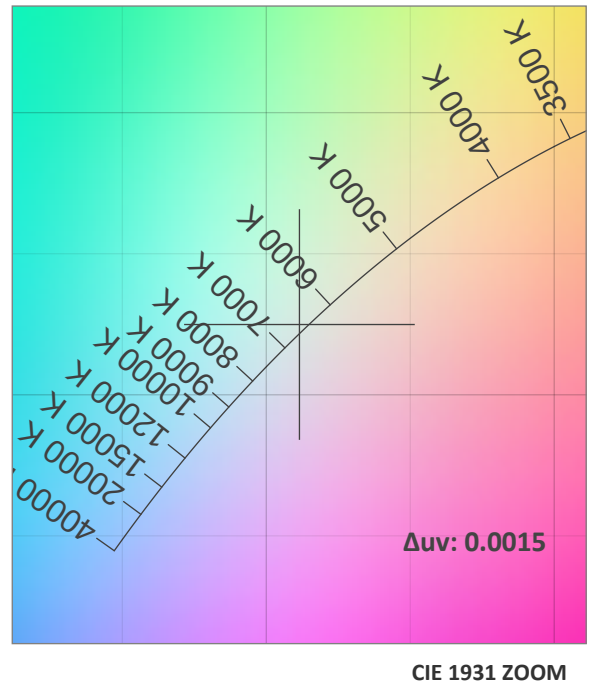
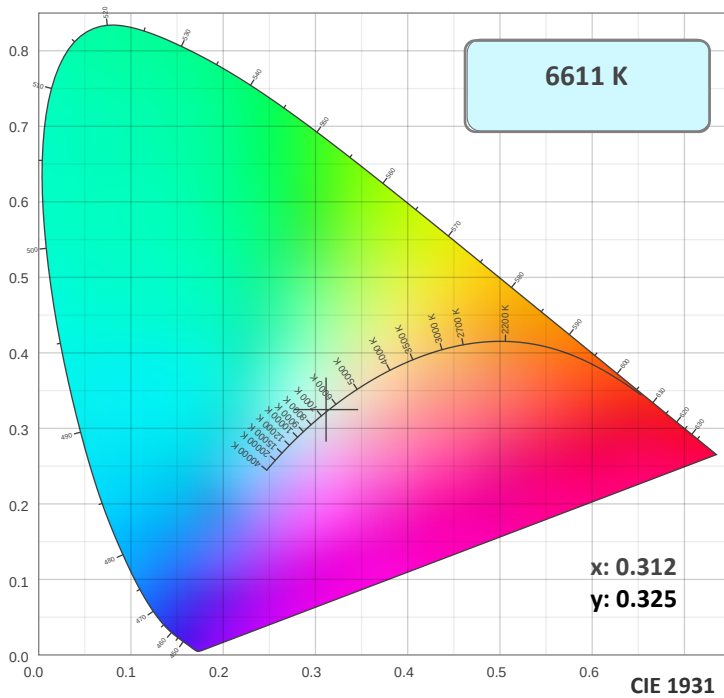
696163 cd

Calculate Center Beam Intensities

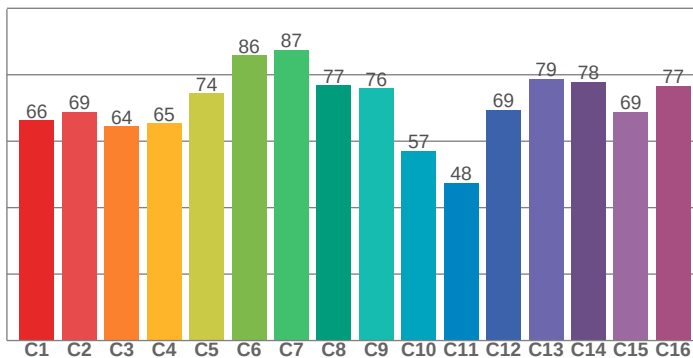
$$\text{lux} = 696163 / \text{distance(m)}^2$$

$$\text{fc} = 696163 / \text{distance(ft)}^2$$

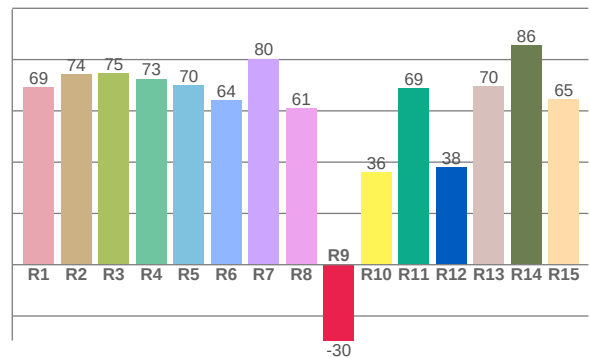
Color Details



TM30: 70.8



CRI: 70.8 (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
69.2	74.2	74.7	72.5	70.0	64.2	80.3	61.1	-29.6	36.0	68.9	38.1	69.6	85.6	64.6

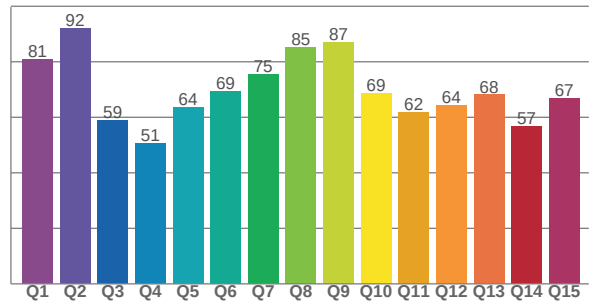
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66.3	68.9	64.4	65.3	74.4	85.8	87.4	76.8	75.9	57.1	47.5	69.4	78.8	77.9	68.9	76.7

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80.9	92.2	59.1	50.7	63.7	69.3	75.5	85.3	87.0	68.7	61.9	64.3	68.1	56.9	66.9

CQS: 67.9



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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6611 K	70.8	-29.6	70.8	92.7	67.9	0.312	0.325	0.199	0.311	0.0015

TM30 Details

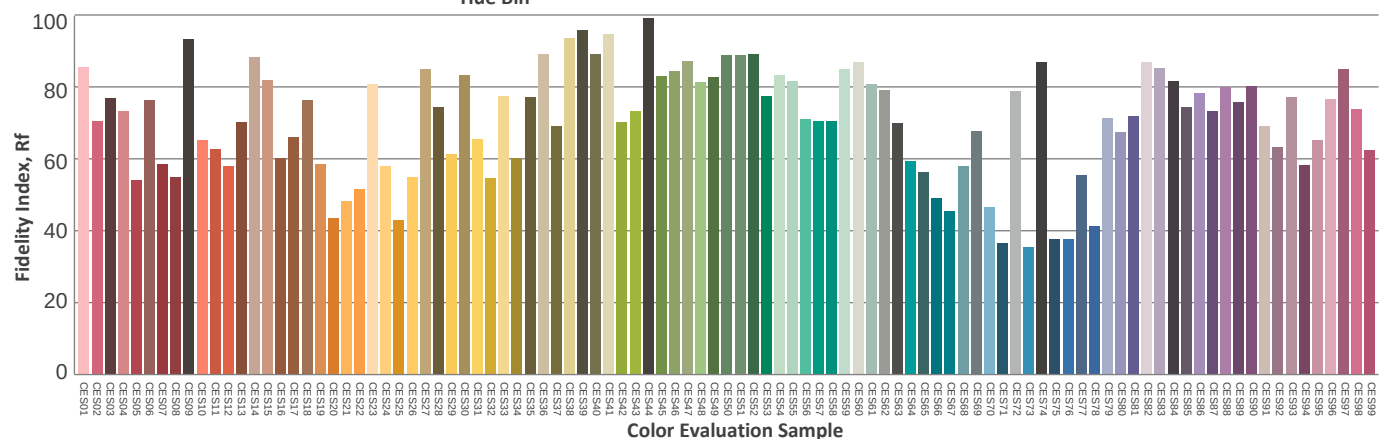
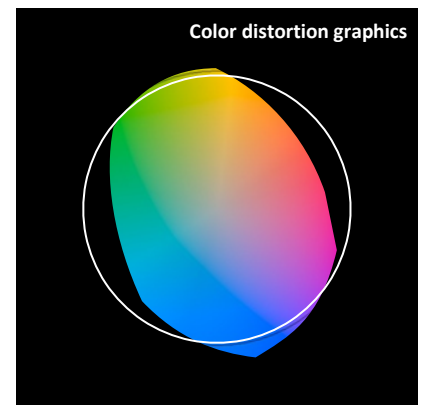
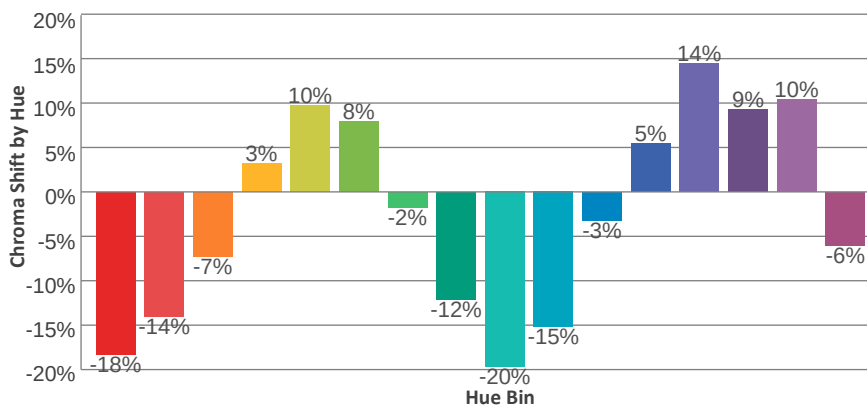
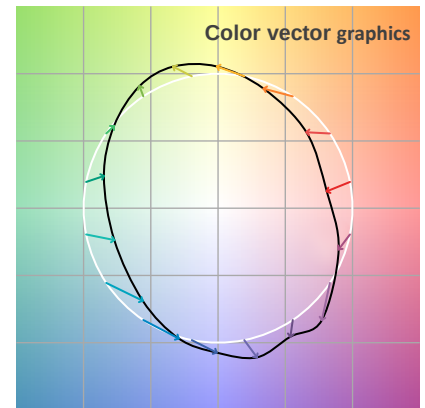
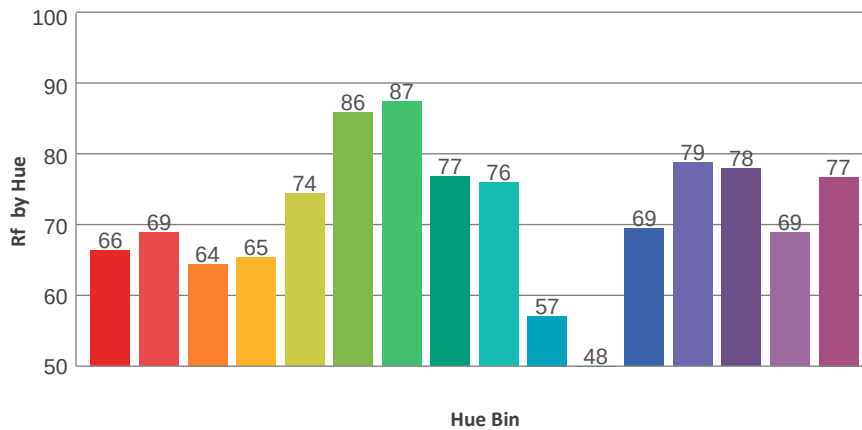
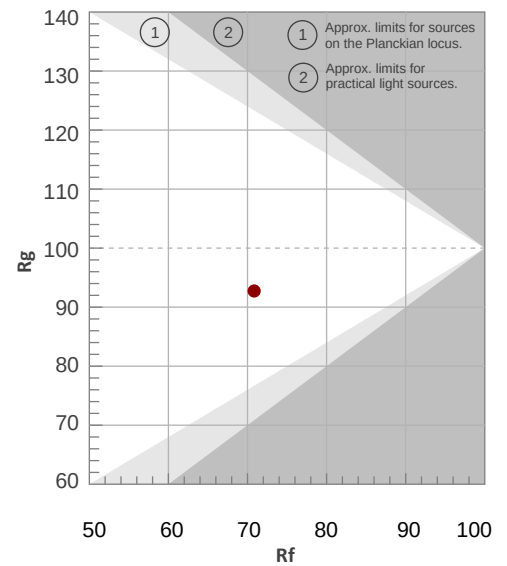
Rf 70.8

Fidelity Index Rf

Rg 92.7

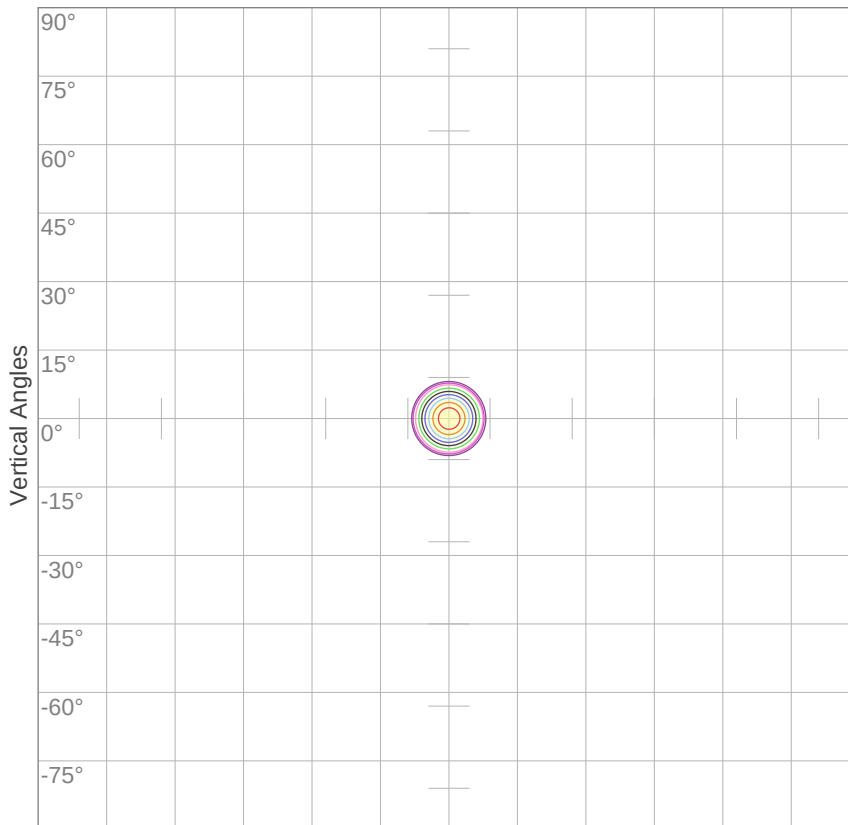
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	-18%	-3%
2	69	-14%	10%
3	64	-7%	21%
4	65	3%	21%
5	74	10%	12%
6	86	8%	-2%
7	87	-2%	-8%
8	77	-12%	-7%
9	76	-20%	8%
10	57	-15%	26%
11	48	-3%	30%
12	69	5%	20%
13	79	14%	7%
14	78	9%	-8%
15	69	10%	-26%
16	77	-6%	-13%



ISO Diagrams

ISO Candela Diagram



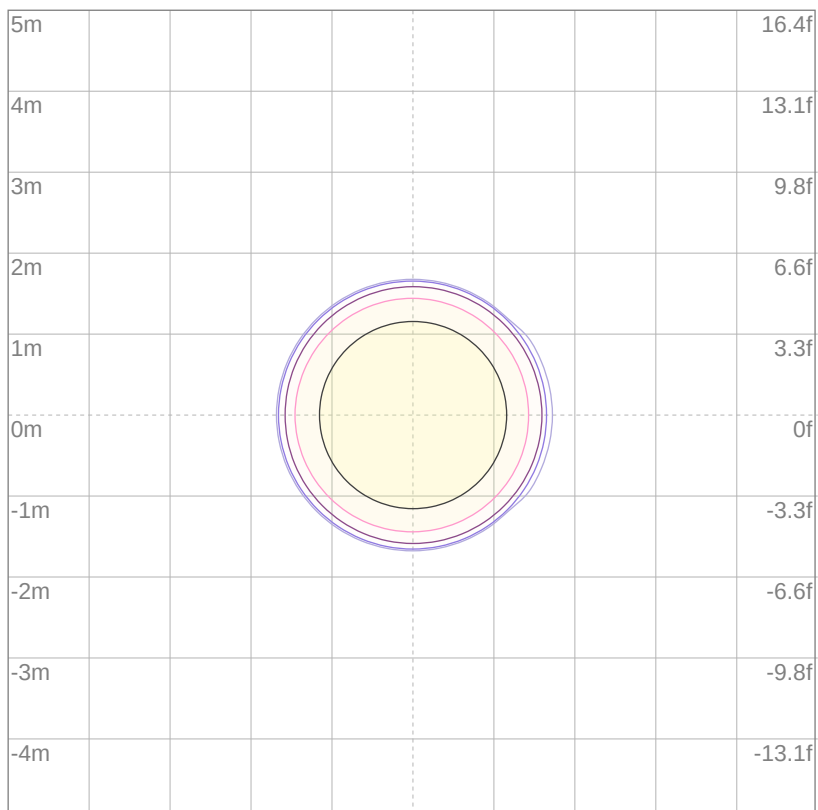
10%	69528 cd
20%	139056 cd
30%	208584 cd
40%	278112 cd
50%	347640 cd
60%	417168 cd
70%	486696 cd
80%	556224 cd
90%	625752 cd

Conditions:

Number of c-planes: 2

Candela at center: 695280 cd

ISO Lux Diagram



3%	209 lx
5%	348 lx
10%	695 lx
30%	2086 lx
50%	3476 lx

Conditions:

Number of c-planes: 2

Lux at center: 6953 lx

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

Photometric Report

Total Lumen Output*

VISO Lab Spion 33000 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
36.7°	51.3°	53.4°

Color Temperature: 6614 K

CRI: 70.9

TLCI: 46

TM30: 71.0

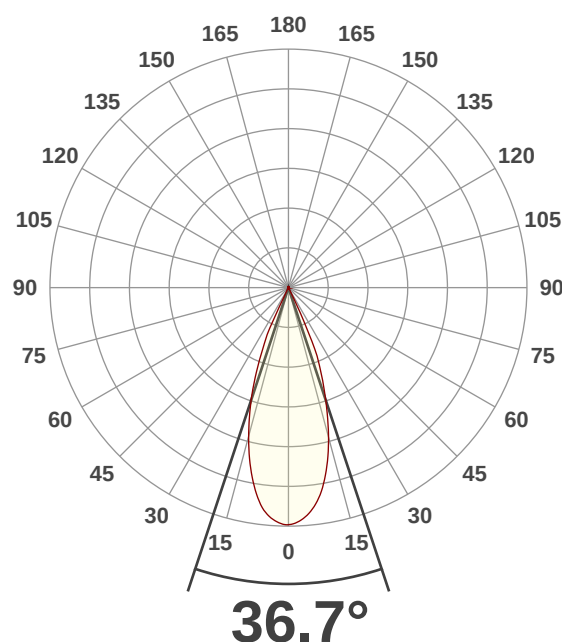
CQS: 68.0

Voltage: 116 V, Current: 7.80 A

Power: 905 W

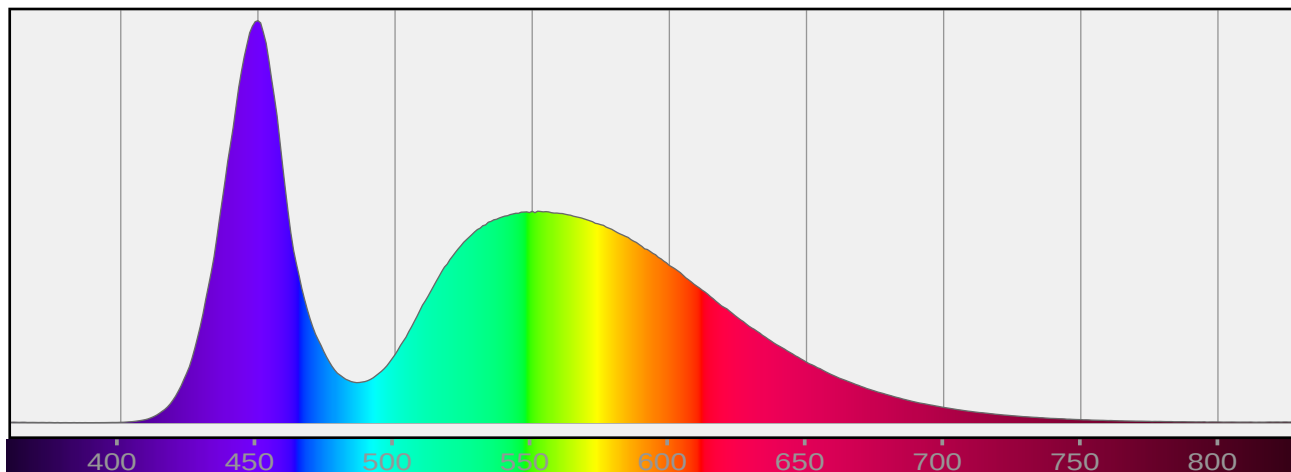
Efficacy: 36 Lumen/Watt

Measurement Date: 6/11/2020



Spectral Distribution

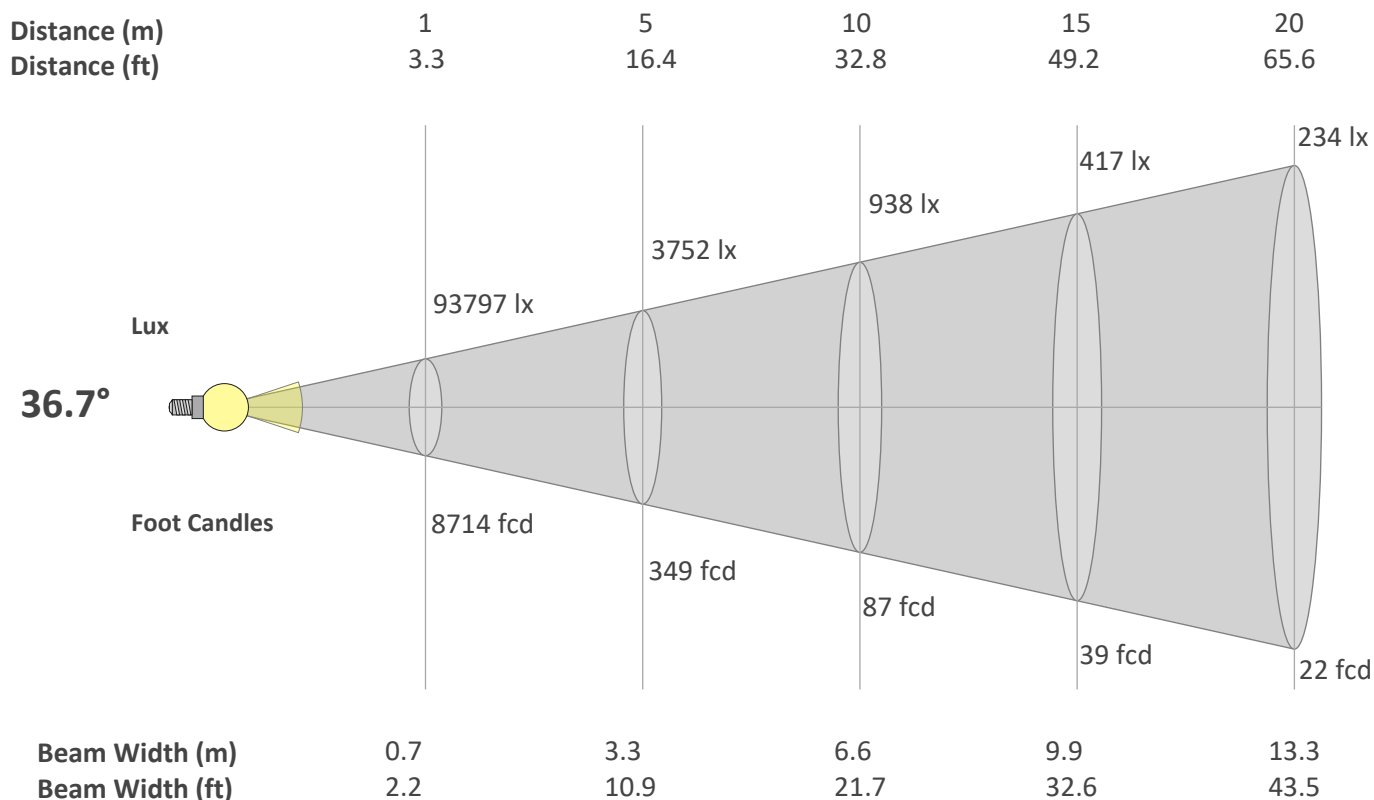
Dominant Wavelength 360 nm



*Total Lumen measurements by calibrated Everfine 2 π Integrating Sphere and Viso Systems Lab Spion

Beam Details

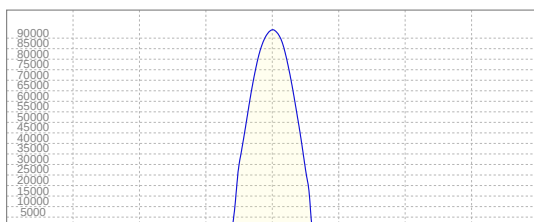
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
36.7°	51.3°	53.4°



Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	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
LX	93797	23449	10422	5862	3752	2605	1914	1466	1158	938	775	651	555	479	417	366	325	289	260	234
FC	8714	2178.5	968.2	544.6	348.6	242.1	177.8	136.2	107.6	87.1	72	60.5	51.6	44.5	38.7	34	30.2	26.9	24.1	21.8

Linear Distribution



Peak Candela

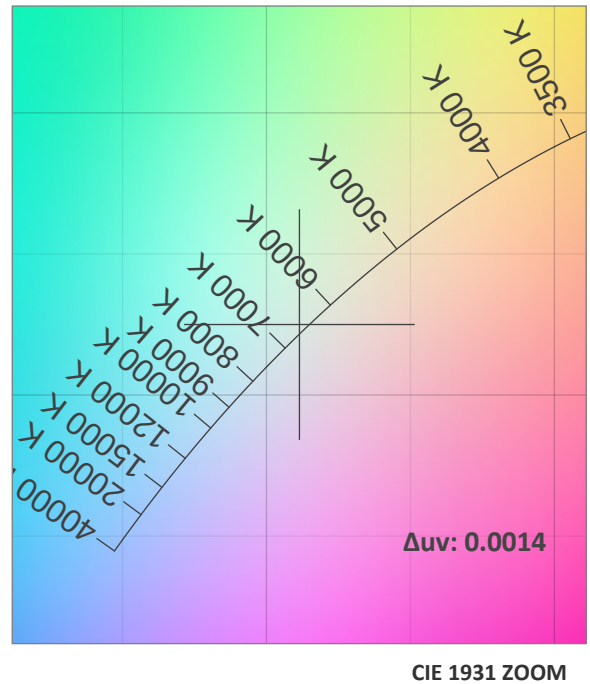
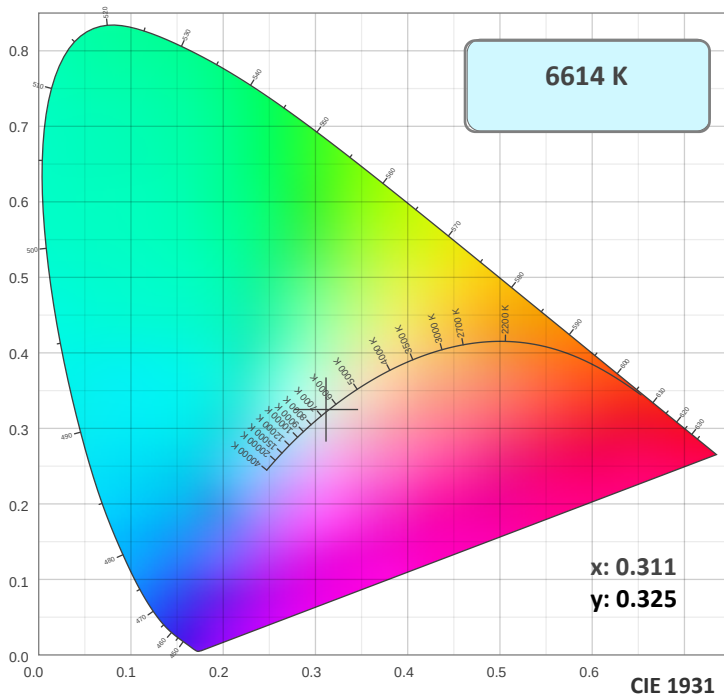
93931 cd

Calculate Center Beam Intensities

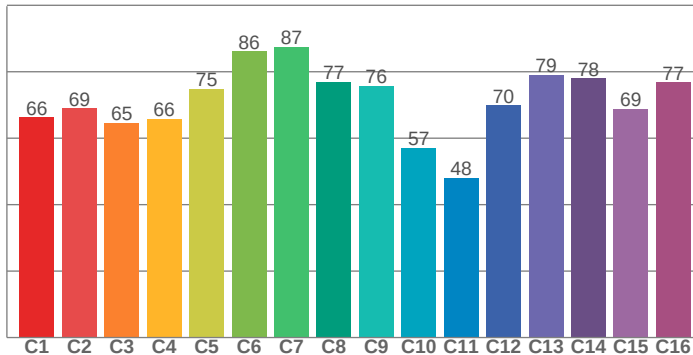
$$\text{lux} = 93931 / \text{distance(m)}^2$$

$$\text{fc} = 93931 / \text{distance(ft)}^2$$

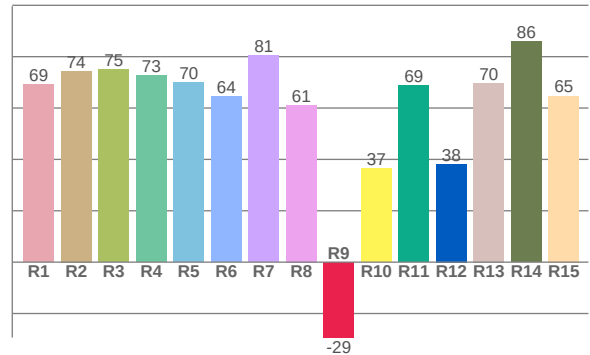
Color Details



TM30: 71.0



CRI: 70.9 (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
69.3	74.4	75.1	72.5	70.0	64.4	80.6	61.2	-29.4	36.5	68.8	38.2	69.7	85.8	64.7

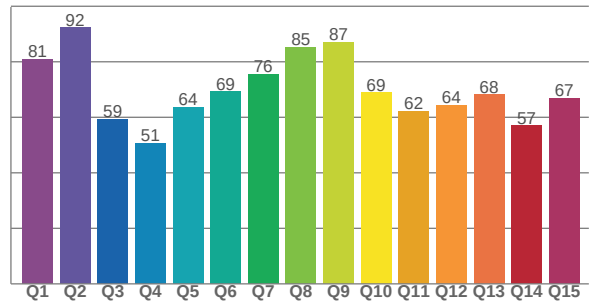
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66.3	69.0	64.7	65.8	74.9	86.2	87.4	76.9	75.8	57.1	48.0	69.9	79.0	78.0	68.8	76.8

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
81.0	92.4	59.3	50.7	63.6	69.2	75.5	85.2	87.2	68.9	62.1	64.5	68.2	57.0	66.9

CQS: 68.0



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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6614 K	70.9	-29.4	71.0	92.6	68.0	0.311	0.325	0.198	0.311	0.0014

TM30 Details

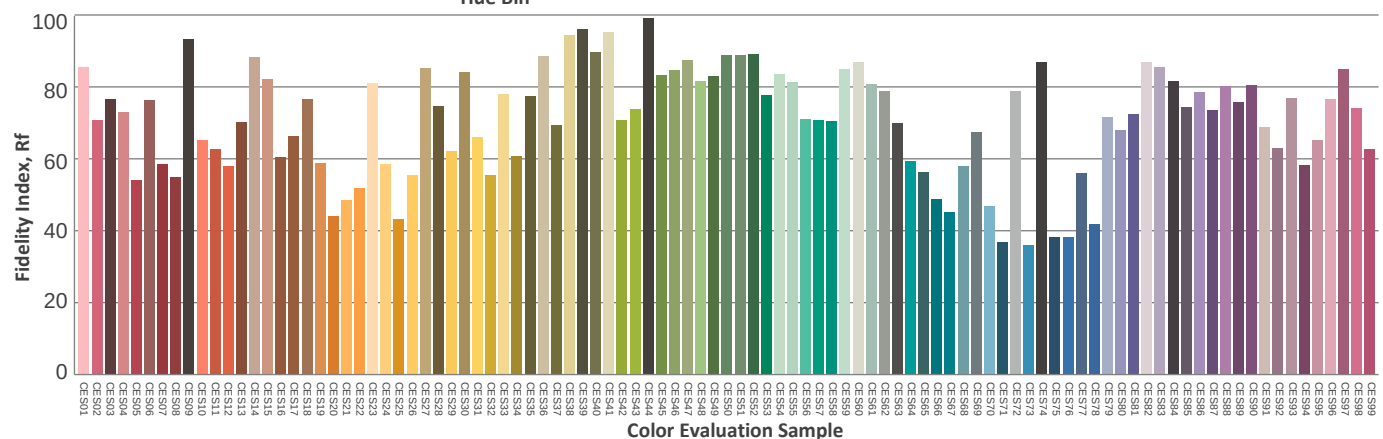
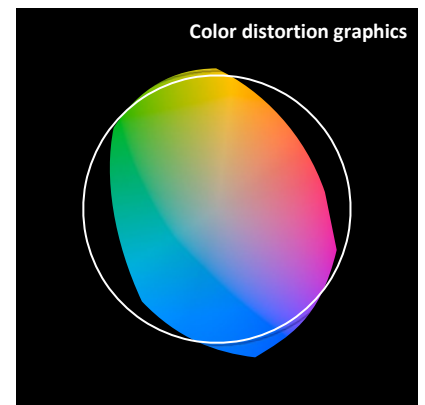
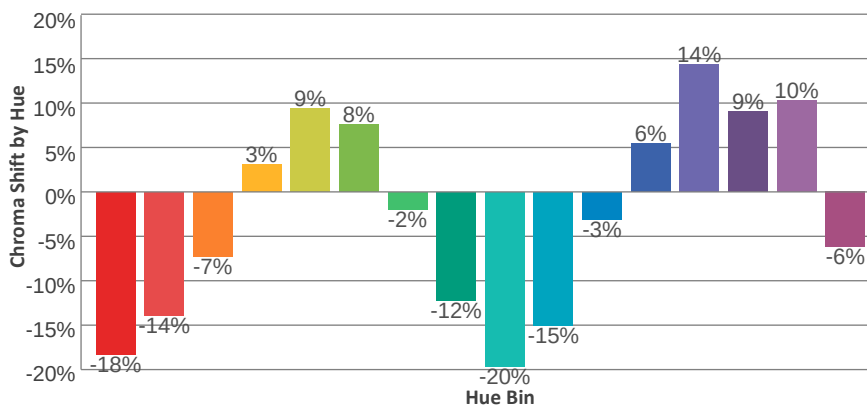
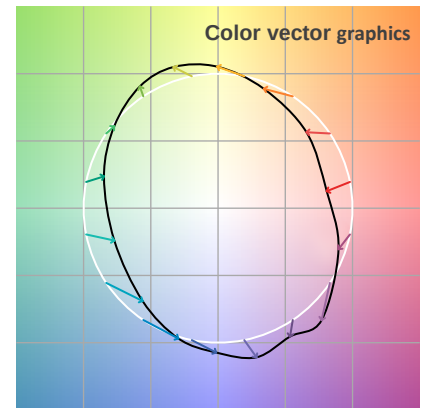
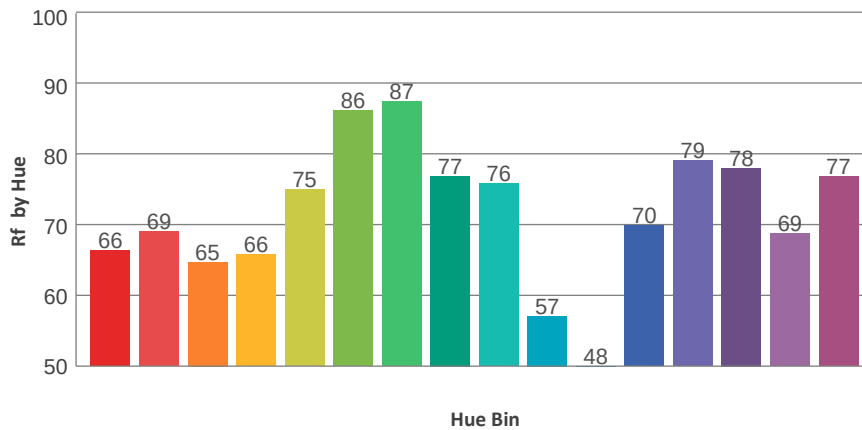
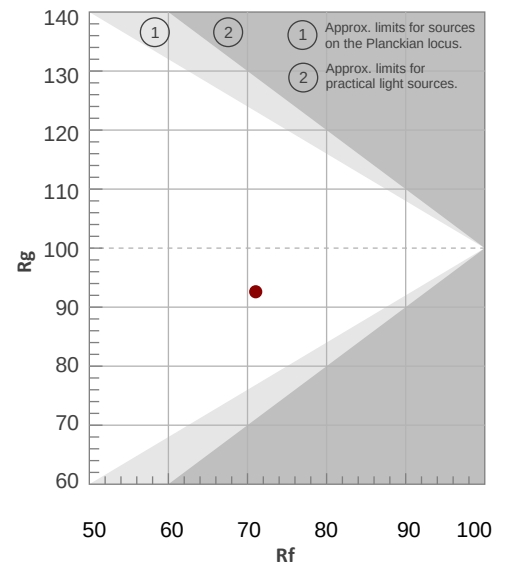
Rf 71.0

Fidelity Index Rf

Rg 92.6

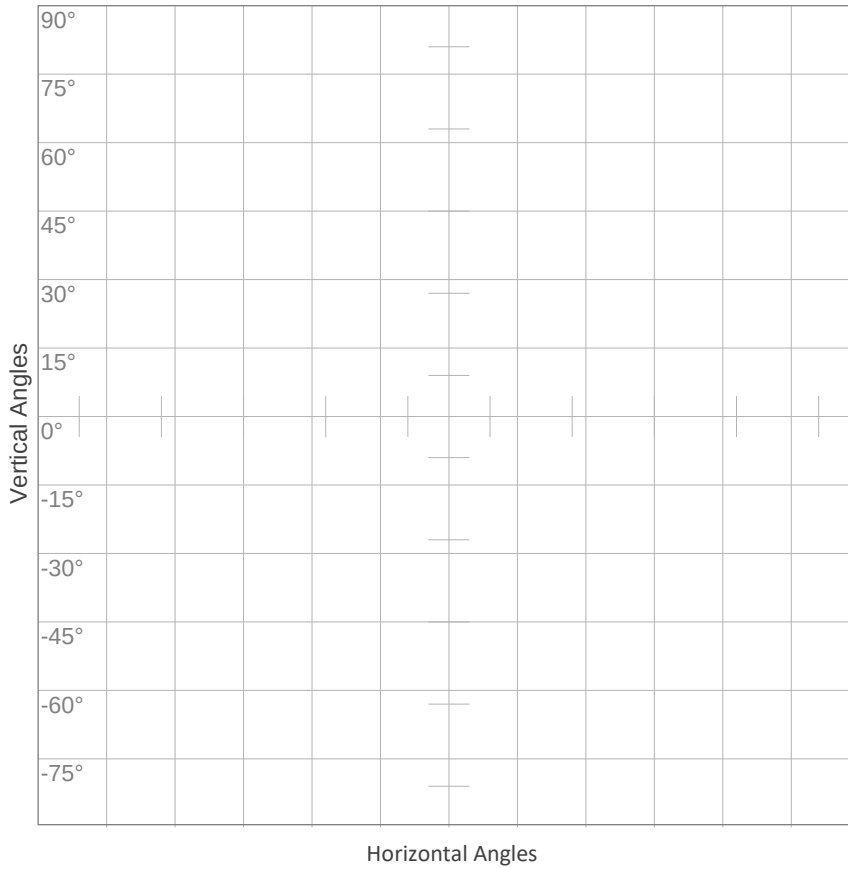
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	-18%	-3%
2	69	-14%	10%
3	65	-7%	21%
4	66	3%	21%
5	75	9%	12%
6	86	8%	-2%
7	87	-2%	-8%
8	77	-12%	-7%
9	76	-20%	9%
10	57	-15%	26%
11	48	-3%	29%
12	70	6%	20%
13	79	14%	6%
14	78	9%	-9%
15	69	10%	-26%
16	77	-6%	-12%



ISO Diagrams

ISO Candela Diagram



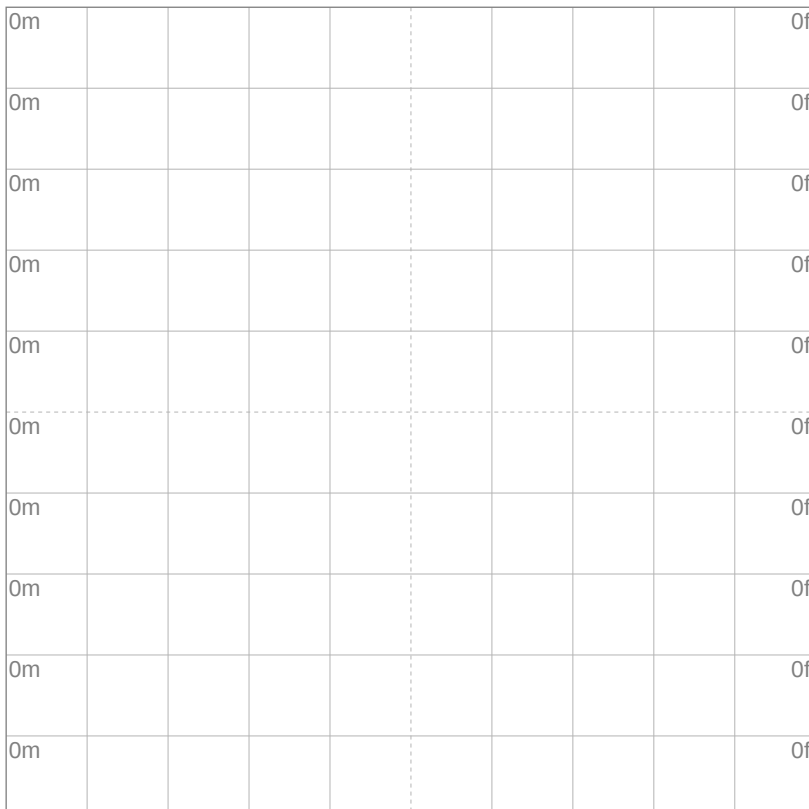
10%	9380 cd
20%	18759 cd
30%	28139 cd
40%	37519 cd
50%	46898 cd
60%	56278 cd
70%	65658 cd
80%	75037 cd
90%	84417 cd

Conditions:

Number of c-planes: 2

Candela at center: 93797 cd

ISO Lux Diagram



3%	28.1 lx
5%	46.9 lx
10%	93.8 lx
30%	281 lx
50%	469 lx

Conditions:

Number of c-planes: 2

Lux at center: 938 lx

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

Mounting Height: 10 meters (33 feet)

Photometric Report

Total Lumen Output*

VISO Lab Spion 23025 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
13.2°	18.1°	18.8°

Color Temperature: 6329 K

CRI: 85.0

TLCI: 59

TM30: 78.3

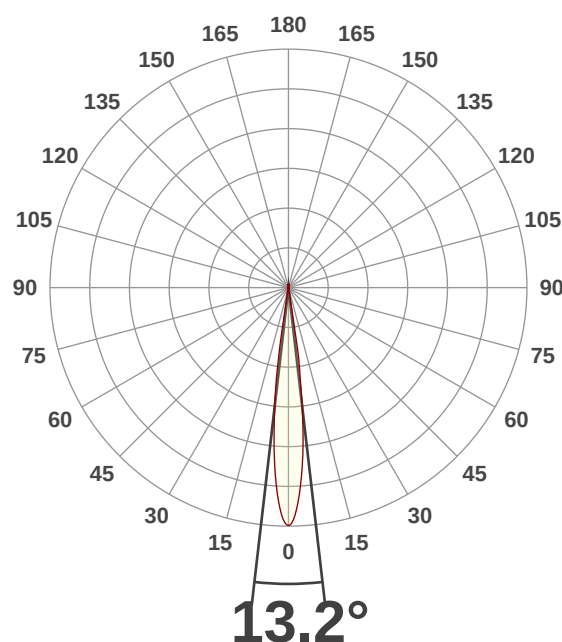
CQS: 75.6

Voltage: 115 V, Current: 7.74 A

Power: 893 W

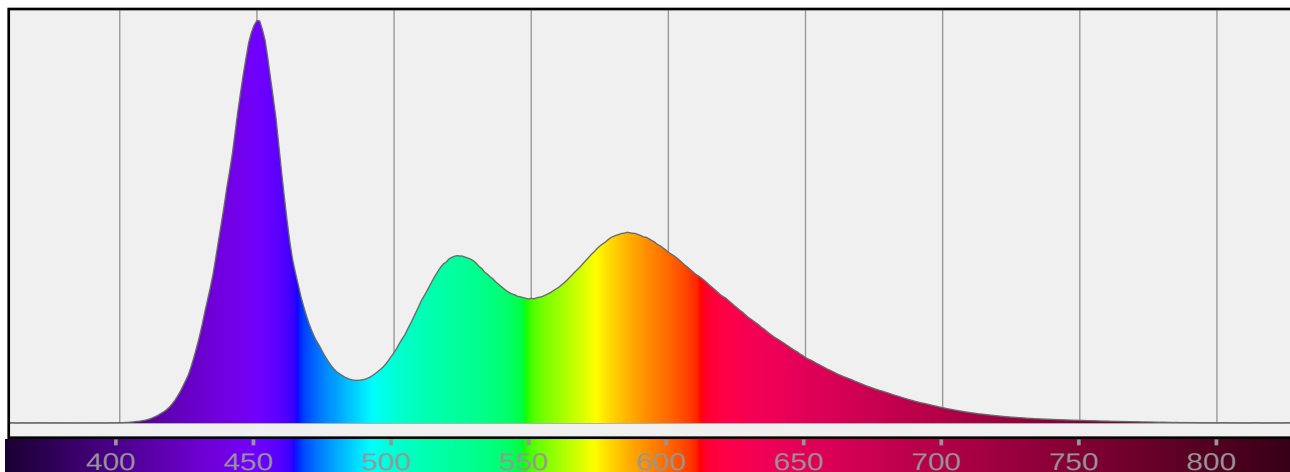
Efficacy: 26 Lumen/Watt

Measurement Date: 6/22/2020



Spectral Distribution

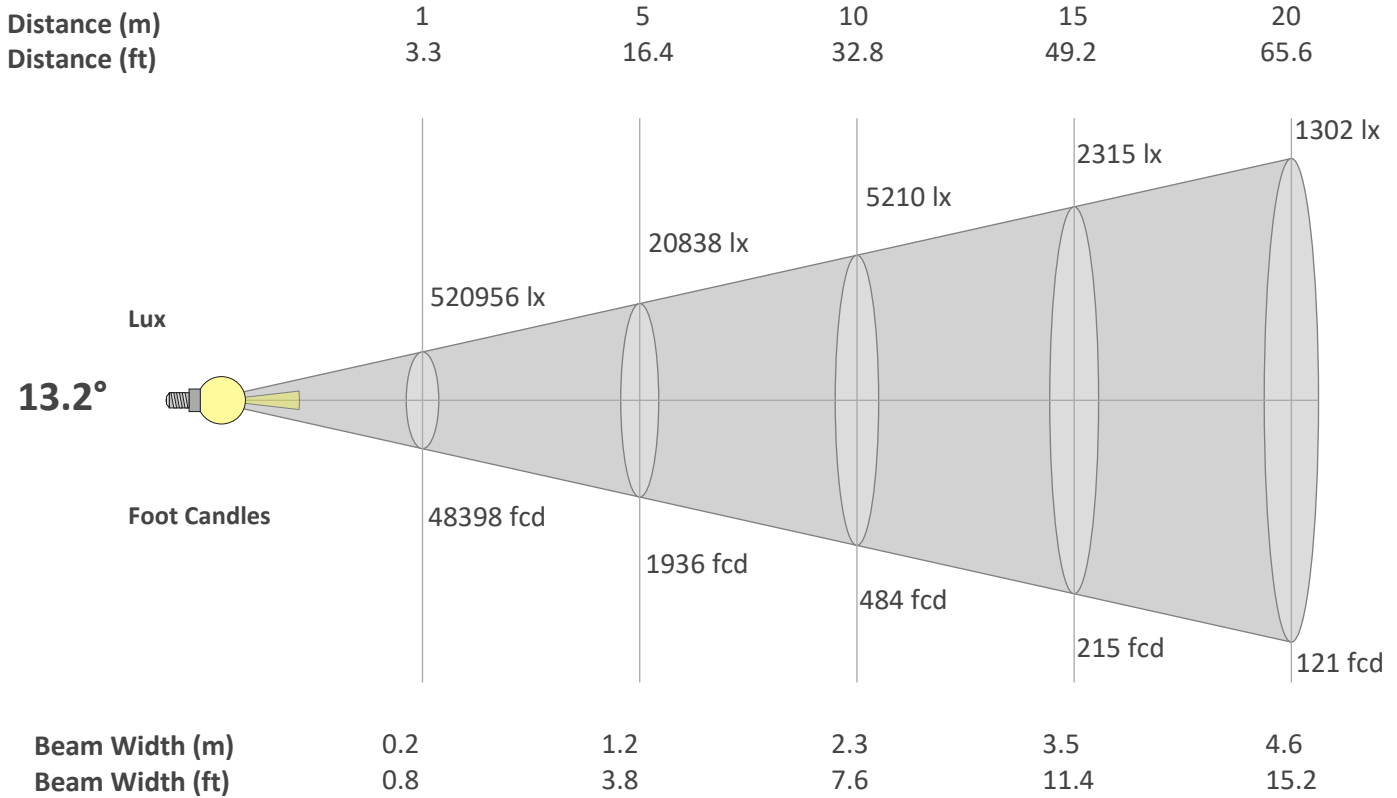
Dominant Wavelength 360 nm



*Total Lumen measurements by calibrated Everfine 2 π Integrating Sphere and Viso Systems Lab Spion

Beam Details

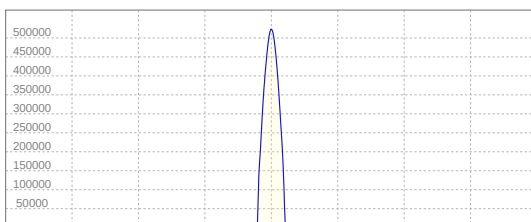
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
13.2°	18.1°	18.8°



Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	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
LX	520956	130239	57884	32560	20838	14471	10632	8140	6432	5210	4305	3618	3083	2658	2315	2035	1803	1608	1443	1302
FC	48398.4	12099.6	5377.6	3024.9	1935.9	1344.4	987.7	756.2	597.5	484	400	336.1	286.4	246.9	215.1	189.1	167.5	149.4	134.1	121

Linear Distribution



Peak Candela

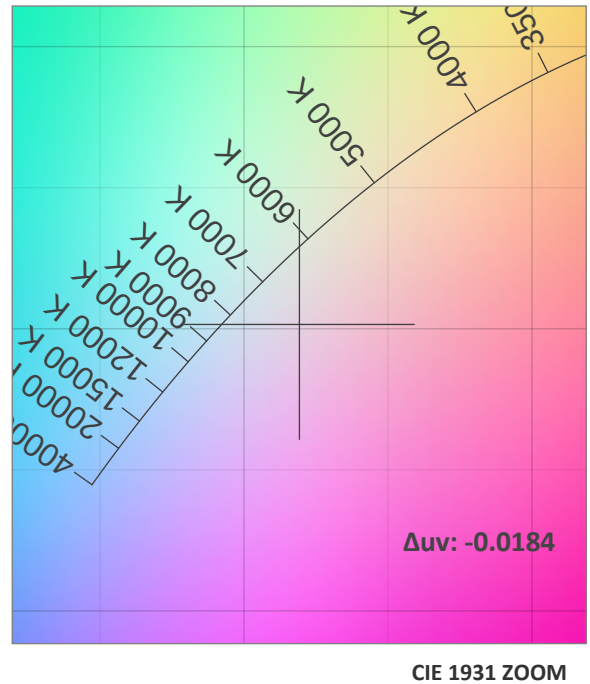
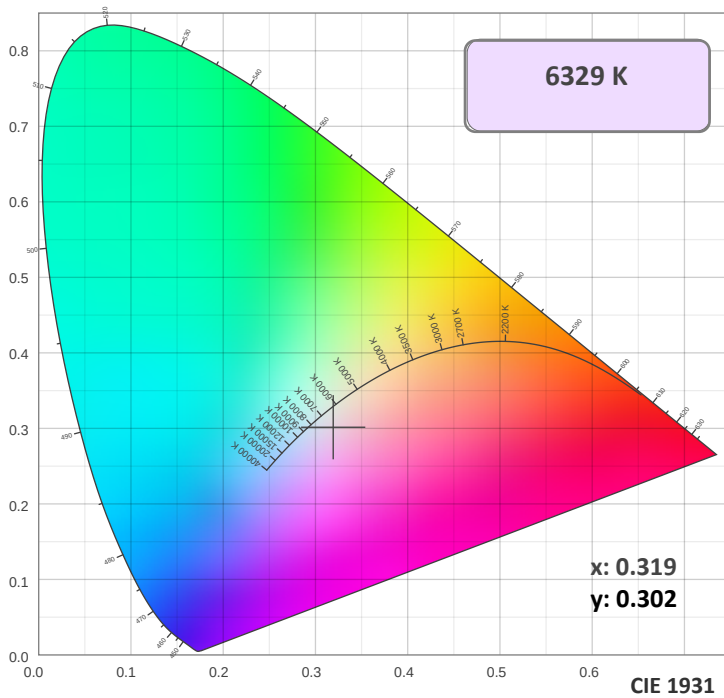
521309 cd

Calculate Center Beam Intensities

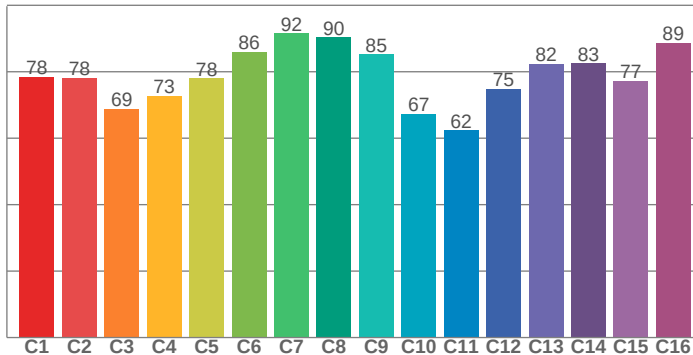
$$\text{lux} = 521309 / \text{distance(m)}^2$$

$$\text{fc} = 521309 / \text{distance(ft)}^2$$

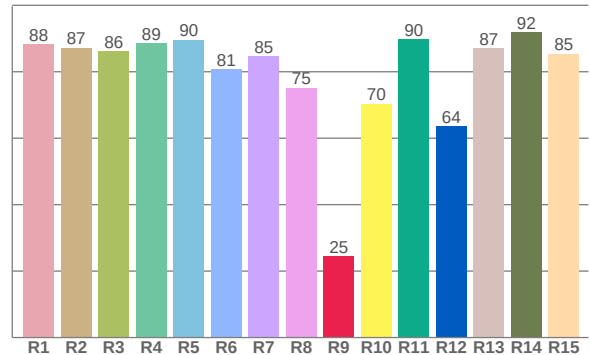
Color Details



TM30: 78.3



CRI: 85.0 (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
88.3	87.2	86.1	88.5	89.7	80.8	84.6	75.1	24.5	70.3	89.9	63.6	87.1	91.9	85.4

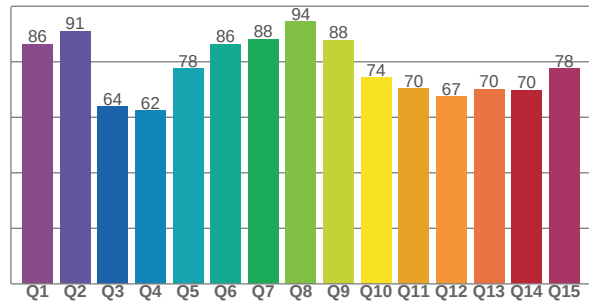
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78.4	78.2	68.8	72.7	78.0	86.0	91.5	90.3	85.2	67.3	62.4	74.9	82.4	82.5	77.2	88.7

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
86.3	91.1	63.8	62.4	77.6	86.4	88.2	94.4	87.7	74.3	70.3	67.4	70.1	69.8	77.5

CQS: 75.6



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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6329 K	85.0	24.5	78.3	101.5	75.6	0.319	0.302	0.214	0.303	-0.0184

TM30 Details

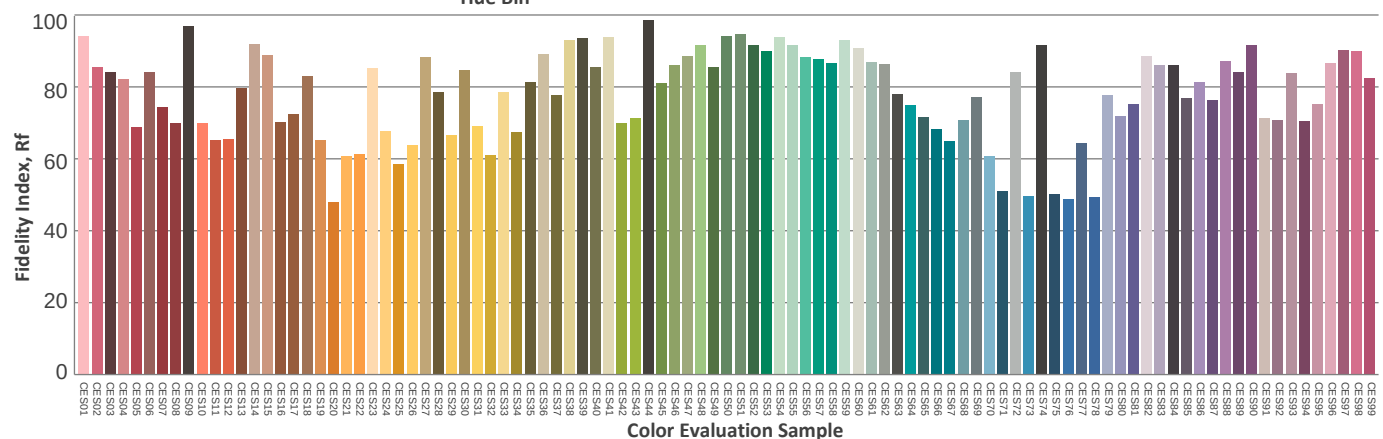
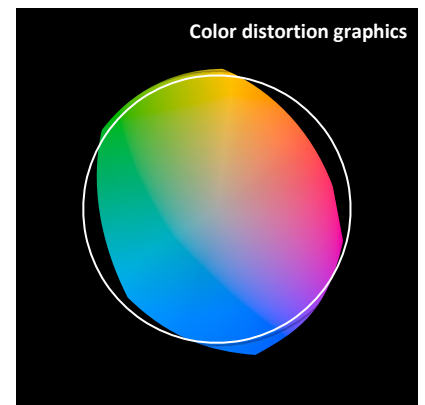
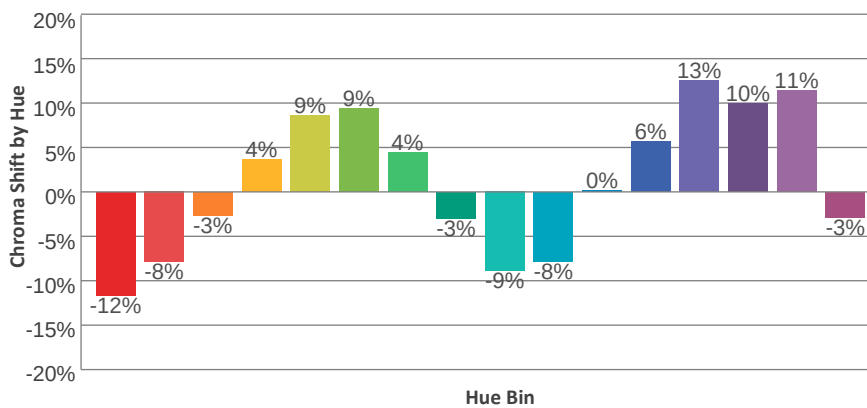
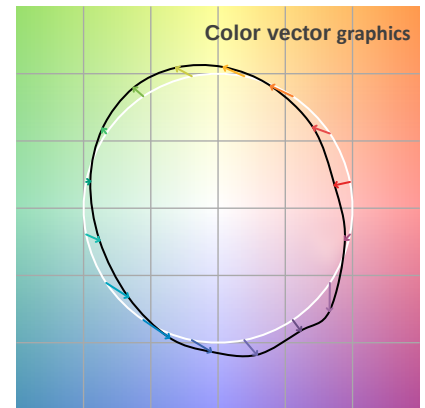
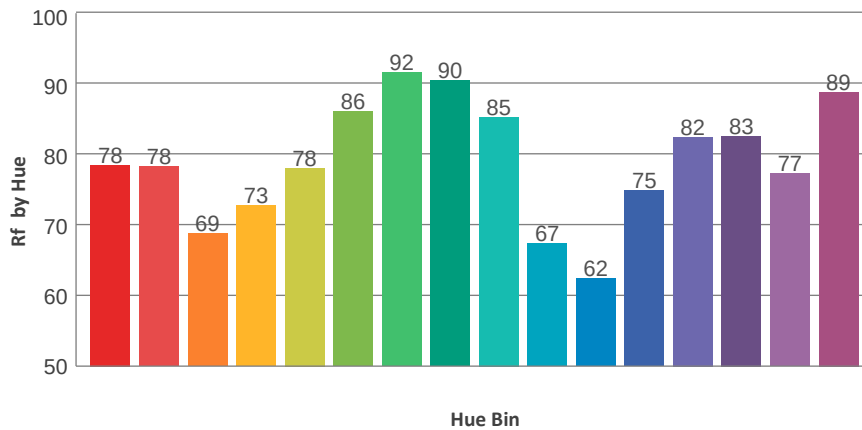
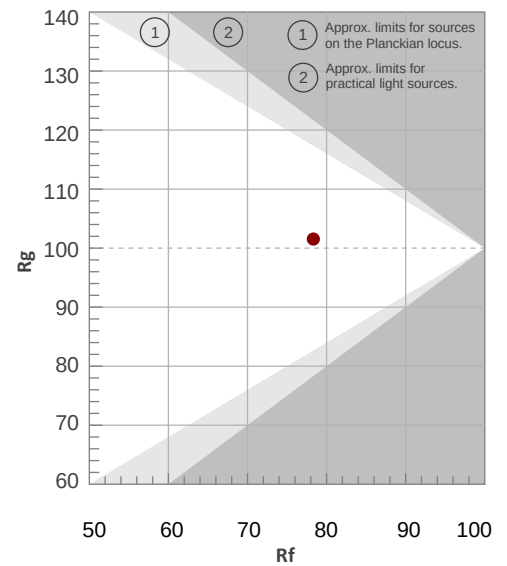
Rf 78.3

Fidelity Index Rf

Rg 101.5

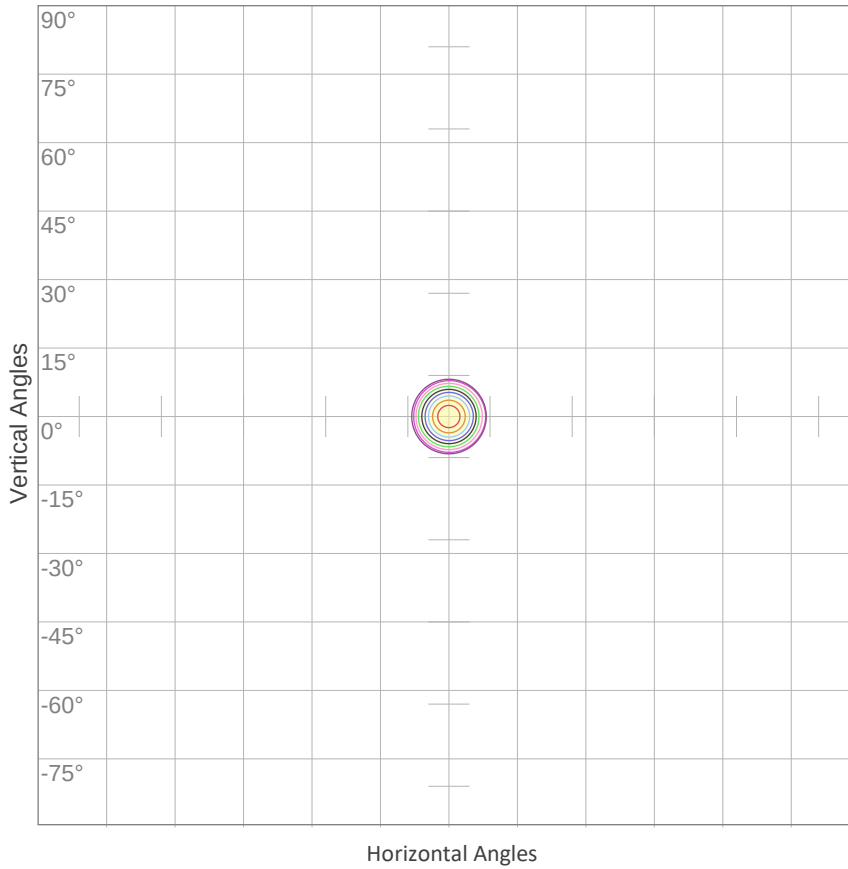
Gamut Index Rg

Hue Bin	R_i	Graphic shifts (%)	
		Chroma	Hue
1	78	-12%	0%
2	78	-8%	11%
3	69	-3%	18%
4	73	4%	16%
5	78	9%	10%
6	86	9%	3%
7	92	4%	-1%
8	90	-3%	-1%
9	85	-9%	6%
10	67	-8%	18%
11	62	0%	23%
12	75	6%	16%
13	82	13%	7%
14	83	10%	0%
15	77	11%	-18%
16	89	-3%	-5%



ISO Diagrams

ISO Candela Diagram



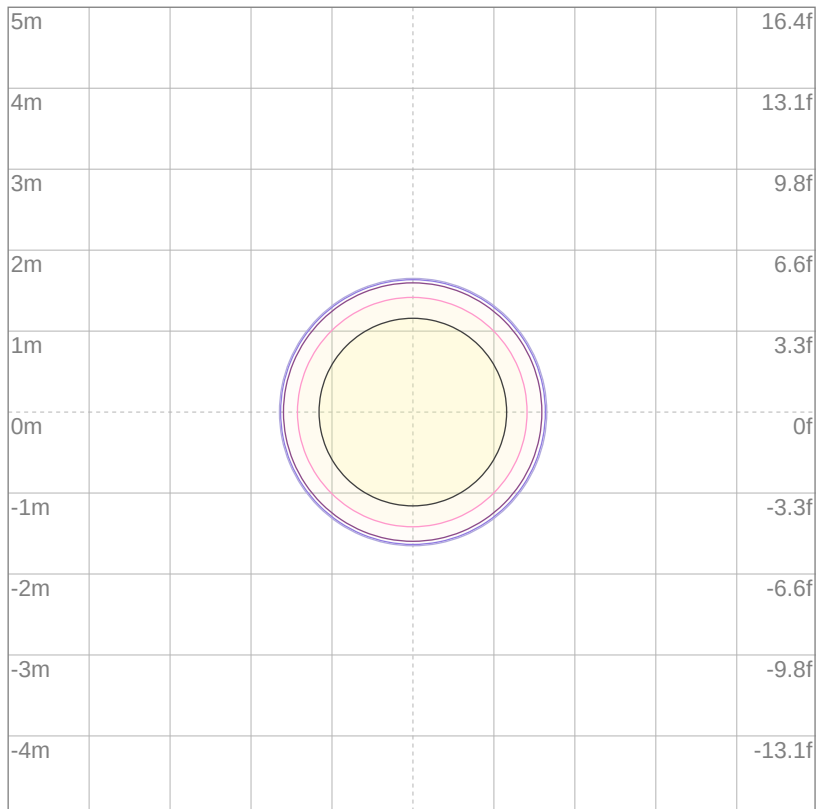
10%	52096 cd
20%	104191 cd
30%	156287 cd
40%	208382 cd
50%	260478 cd
60%	312573 cd
70%	364669 cd
80%	416765 cd
90%	468860 cd

Conditions:

Number of c-planes: 2

Candela at center: 520956 cd

ISO Lux Diagram



3%	156 lx
5%	260 lx
10%	521 lx
30%	1563 lx
50%	2605 lx

Conditions:

Number of c-planes: 2

Lux at center: 5210 lx

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

Photometric Report

Total Lumen Output*

VISO Lab Spion 10397 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
13.6°	18.2°	19.2°

Color Temperature: 2861 K

CRI: 62.4

TLCI: 30

TM30: 64.0

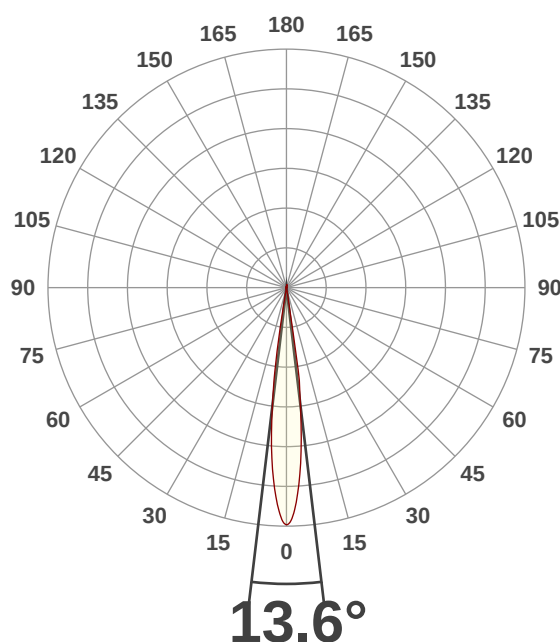
CQS: 60.9

Voltage: 116 V, Current: 7.76 A

Power: 900 W

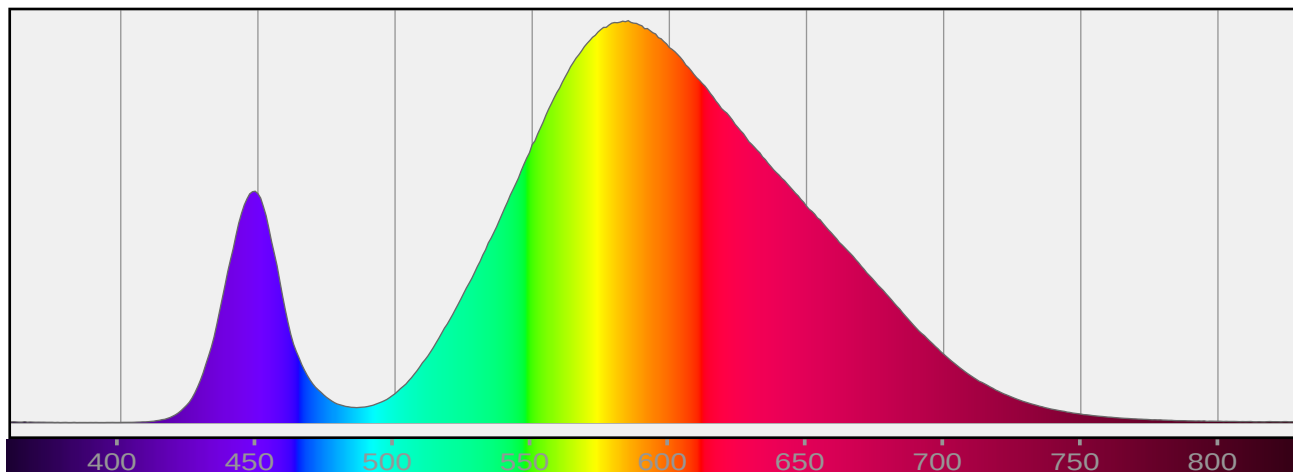
Efficacy: 12 Lumen/Watt

Measurement Date: 6/11/2020



Spectral Distribution

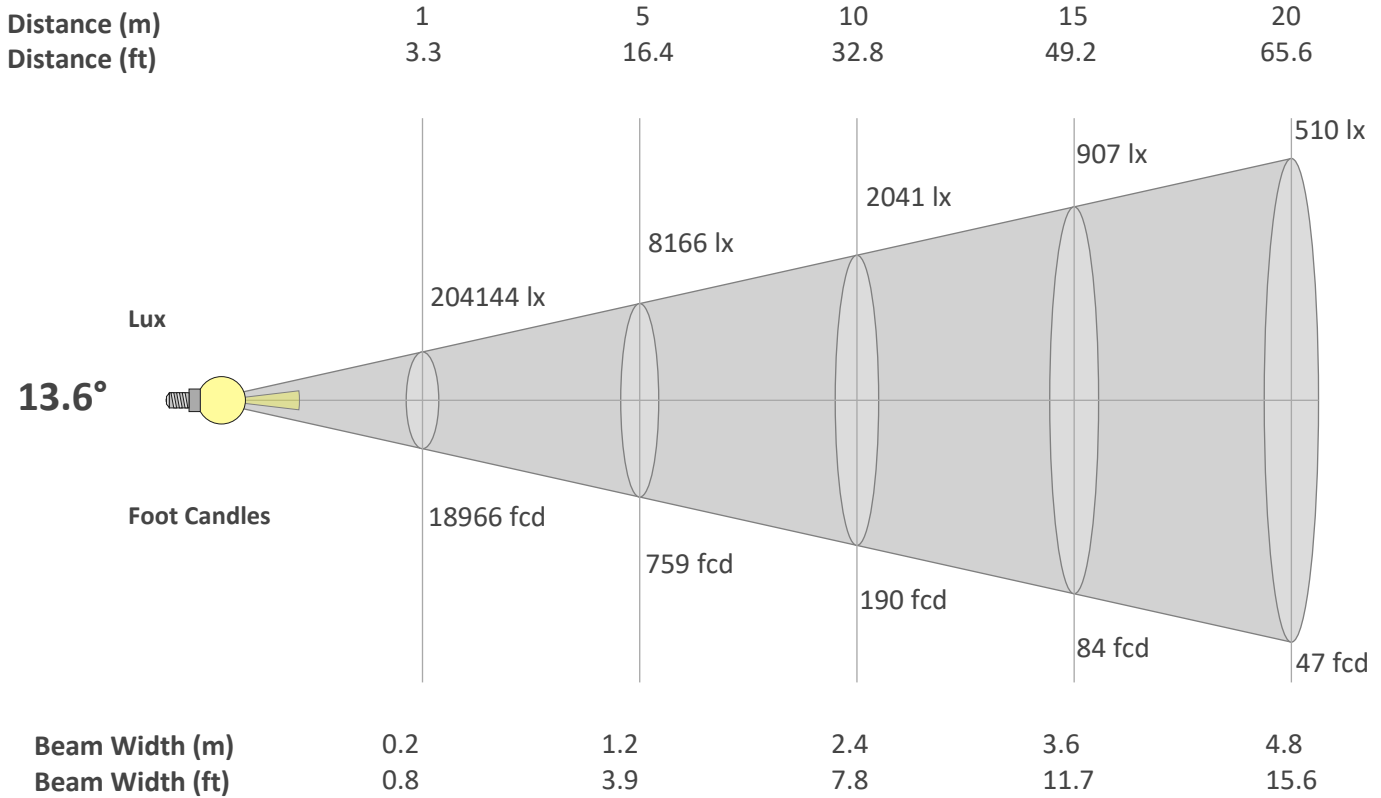
Dominant Wavelength 585 nm



*Total Lumen measurements by calibrated Everfine 2π Integrating Sphere and Viso Systems Lab Spion

Beam Details

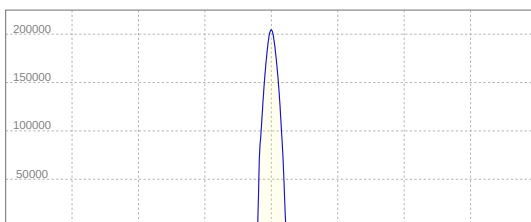
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
13.6°	18.2°	19.2°



Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	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
LX	204144	51036	22683	12759	8166	5671	4166	3190	2520	2041	1687	1418	1208	1042	907	797	706	630	565	510
FC	18965.6	4741.4	2107.3	1185.4	758.6	526.8	387.1	296.3	234.1	189.7	156.7	131.7	112.2	96.8	84.3	74.1	65.6	58.5	52.5	47.4

Linear Distribution



Peak Candela

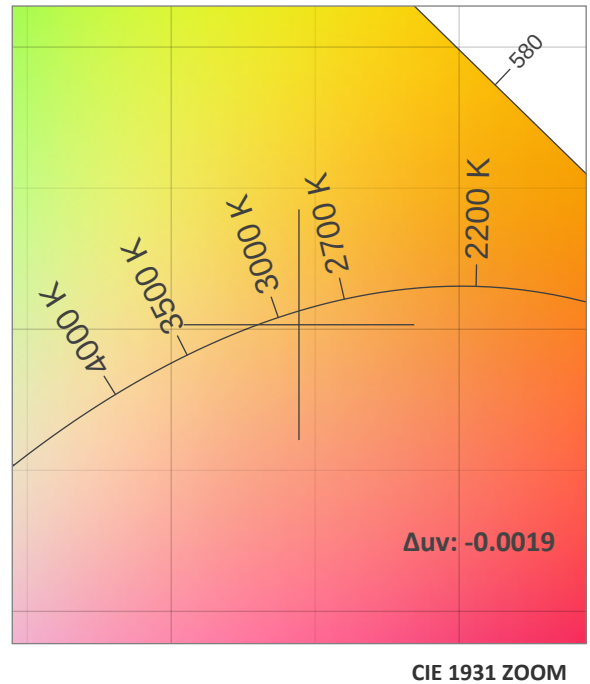
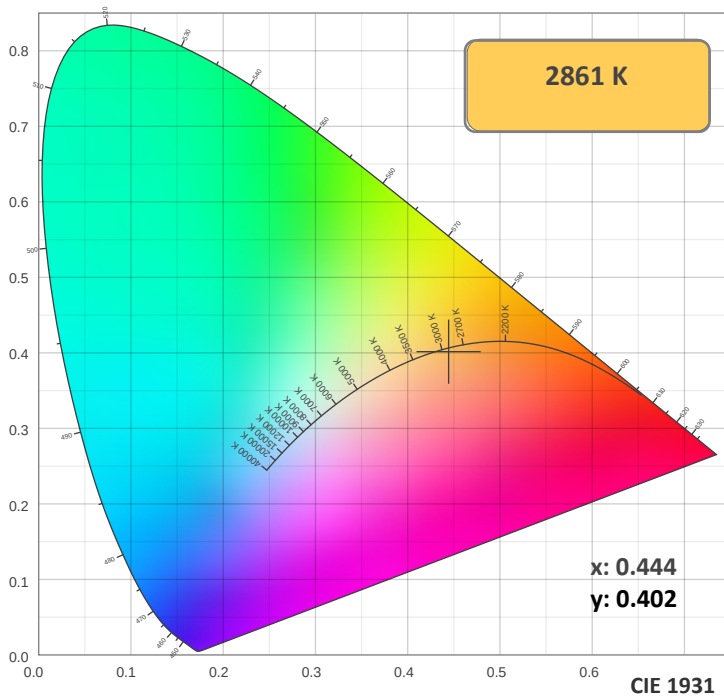
204448 cd

Calculate Center Beam Intensities

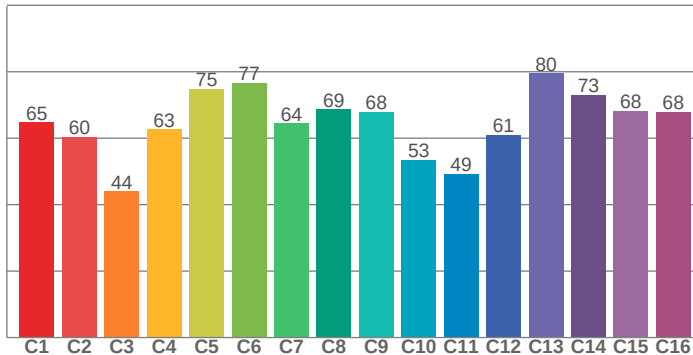
$$\text{lux} = 204448 / \text{distance(m)}^2$$

$$\text{fc} = 204448 / \text{distance(ft)}^2$$

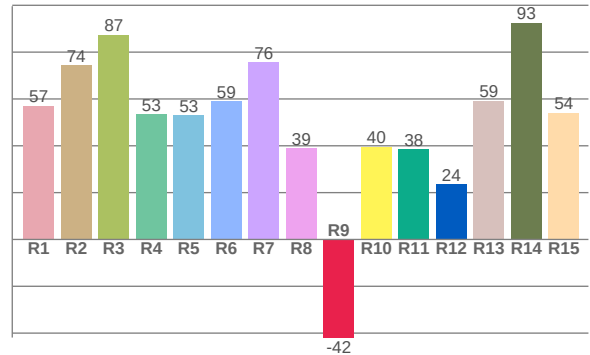
Color Details



TM30: 64.0



CRI: 62.4 (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
57.1	74.4	87.4	53.4	53.1	59.0	75.6	39.1	-41.9	39.6	38.4	23.7	59.3	92.5	54.2

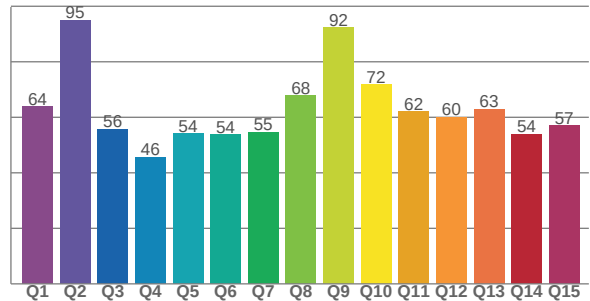
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
64.8	60.4	44.0	62.7	74.8	76.6	64.5	68.7	67.9	53.4	49.3	60.9	79.5	73.0	68.2	67.9

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
63.9	94.9	55.8	45.6	54.1	53.7	54.6	67.8	92.3	71.7	62.1	60.1	63.0	54.0	57.1

CQS: 60.9



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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2861 K	62.4	-41.9	64.0	92.3	60.9	0.444	0.402	0.256	0.348	-0.0019

TM30 Details

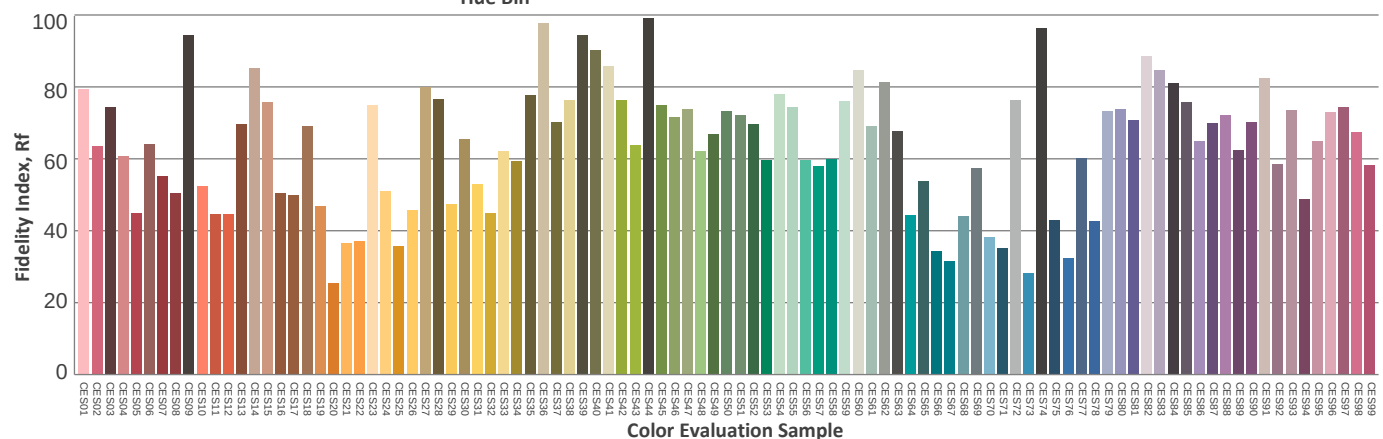
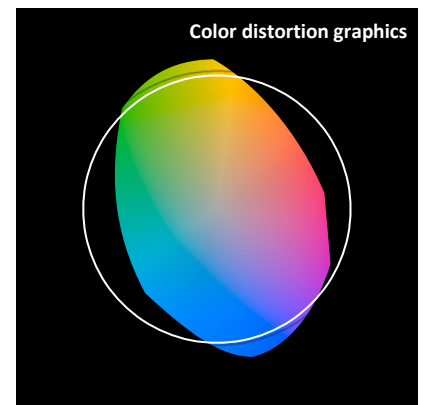
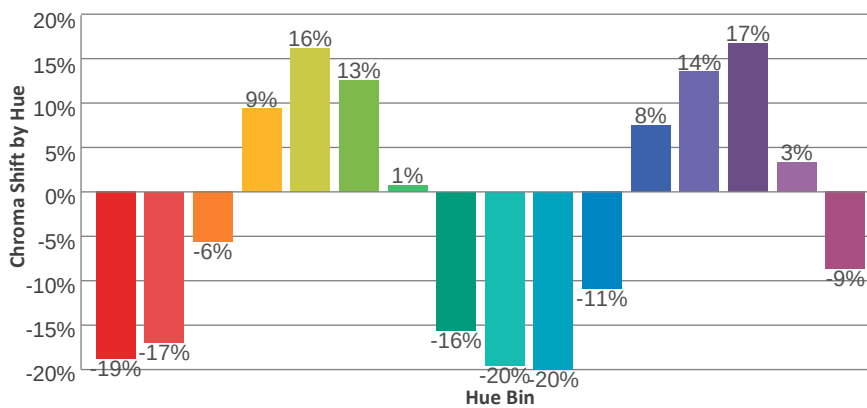
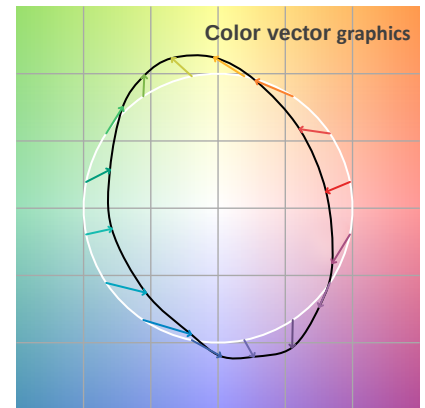
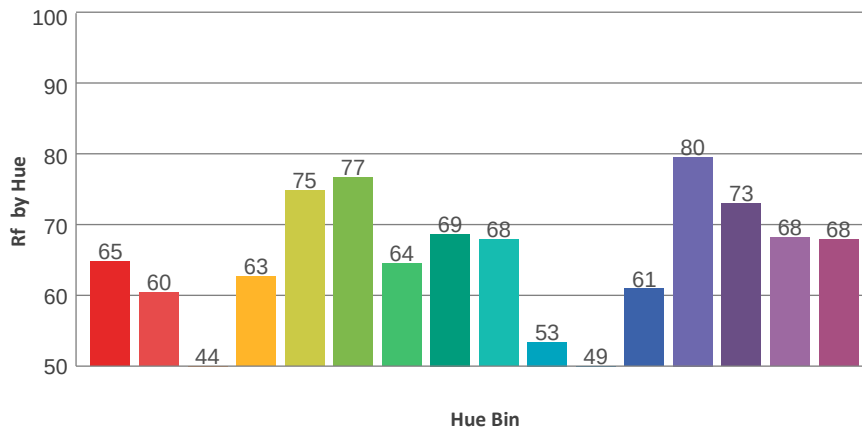
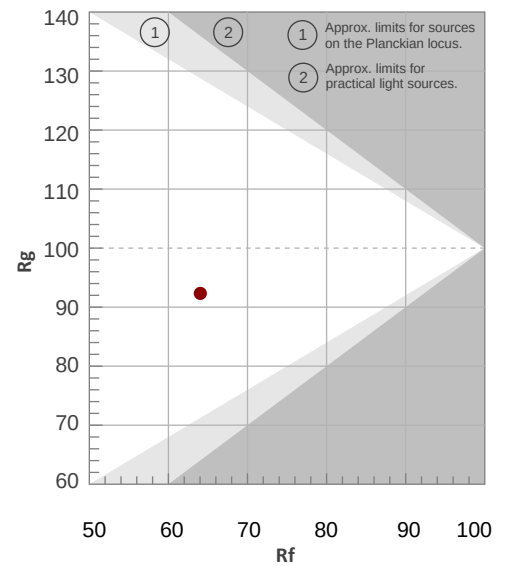
Rf 64.0

Fidelity Index Rf

Rg 92.3

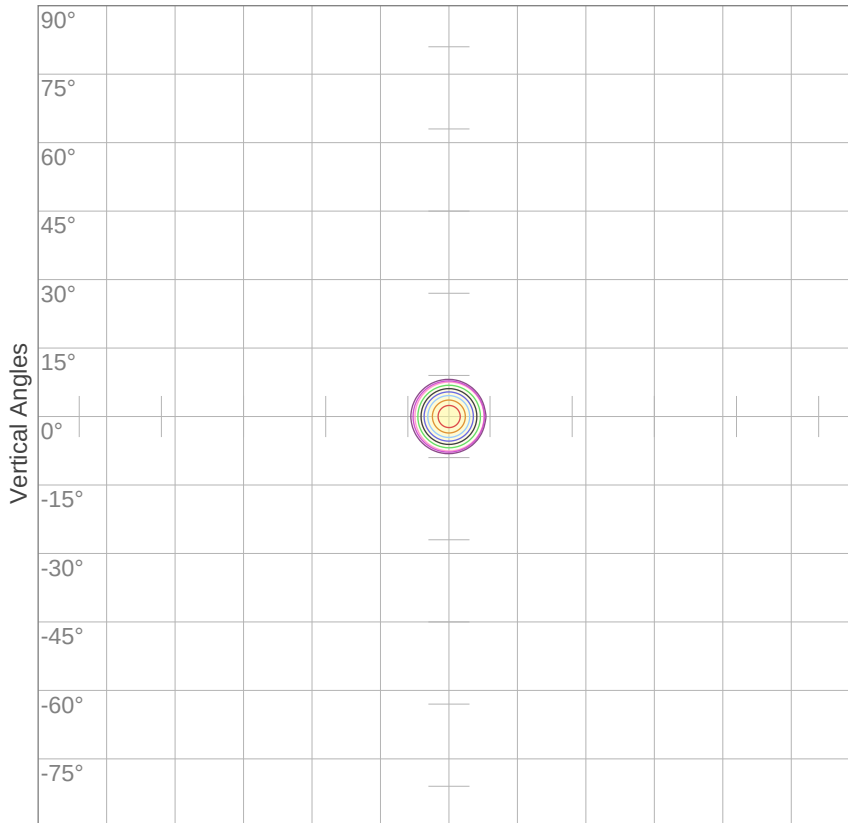
Gamut Index Rg

Hue Bin	R_i	Graphic shifts (%)	
		Chroma	Hue
1	65	-19%	-4%
2	60	-17%	15%
3	44	-6%	29%
4	63	9%	25%
5	75	16%	12%
6	77	13%	-9%
7	64	1%	-23%
8	69	-16%	-12%
9	68	-20%	0%
10	53	-20%	22%
11	49	-11%	35%
12	61	8%	24%
13	80	14%	4%
14	73	17%	-12%
15	68	3%	-19%
16	68	-9%	-23%



ISO Diagrams

ISO Candela Diagram



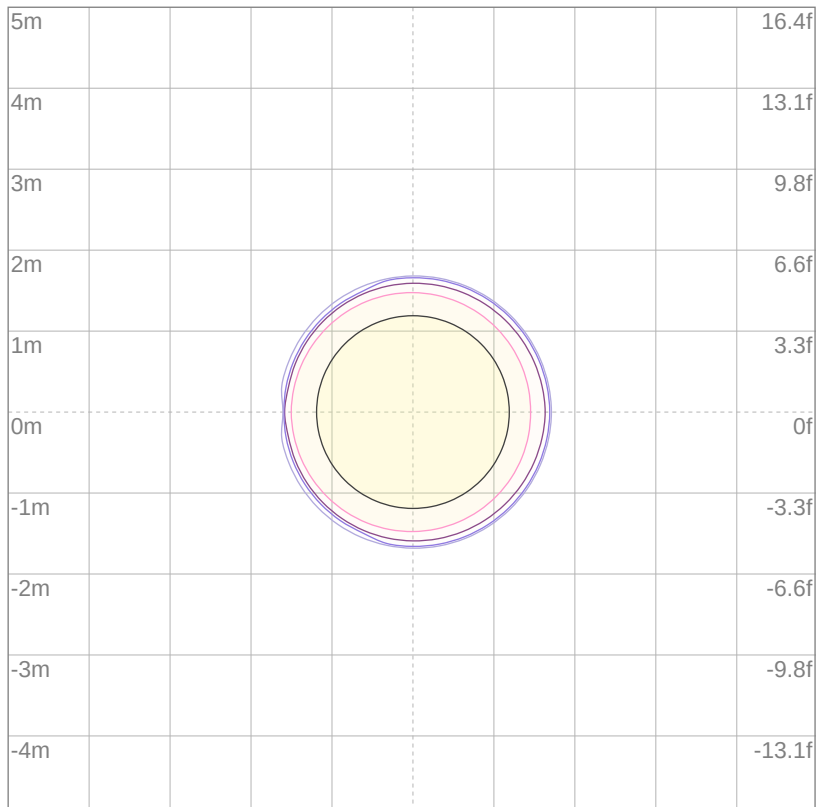
10%	20414 cd
20%	40829 cd
30%	61243 cd
40%	81658 cd
50%	102072 cd
60%	122486 cd
70%	142901 cd
80%	163315 cd
90%	183730 cd

Conditions:

Number of c-planes: 2

Candela at center: 204144 cd

ISO Lux Diagram



3%	61.2 lx
5%	102 lx
10%	204 lx
30%	612 lx
50%	1021 lx

Conditions:

Number of c-planes: 2

Lux at center: 2041 lx

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

Mounting Height: 10 meters (33 feet)