



PROTEUS BRUTUS

Photometric Test Report

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CONTENTS

Testing Process	4
Zoom In	5
Zoom 50%	10
High CRI	20
CTO	25

Testing Process

Total Lumen Measurements

Lumens are measured using a Viso Systems Lab Spion. As a goniophotometer, the Viso calculates the field lumens of the fixture by taking multiple measurements across the light beam.

Many lumens figures provided for entertainment lighting fixtures are only 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.

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*

Integrating Sphere

VISO Lab Spion **33724 lm**

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
4.4°	6.8°	7.9°

Color Temperature: 6159 K

CRI: 70.4

TLCI: 50

TM30: 72.2

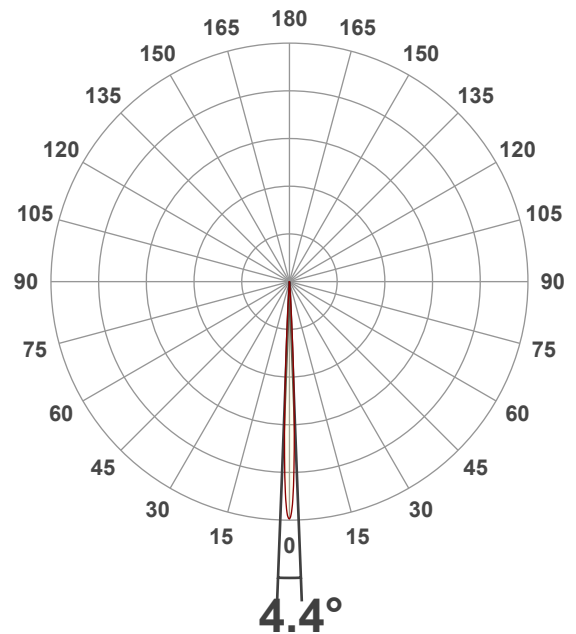
CQS: 69.6

Voltage: 118 V, Current: 13.7 A

Power: 1620 W

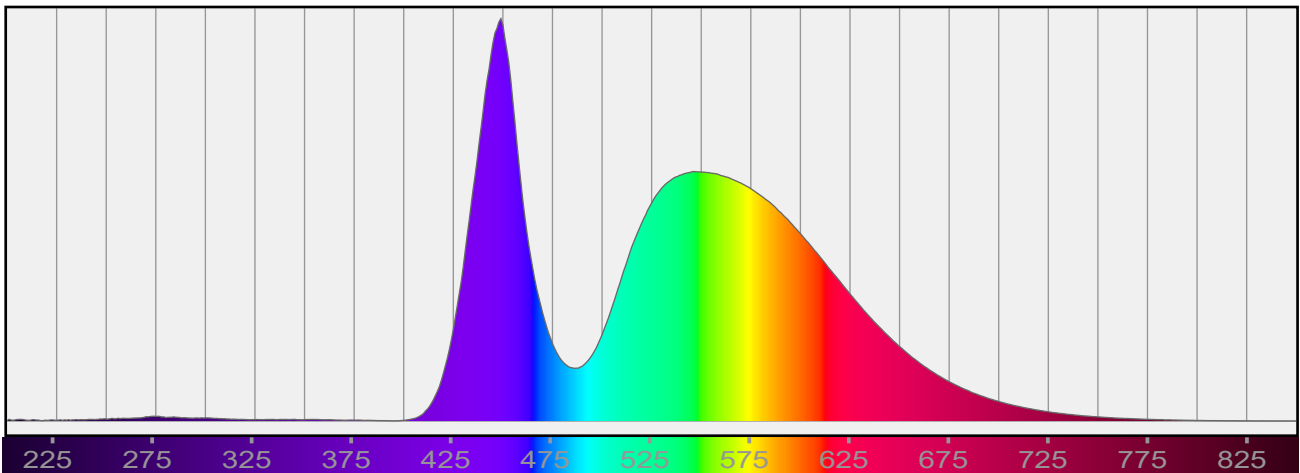
Efficacy: 21 Lumen/Watt

Measurement Date: 8/25/2022



Spectral Distribution

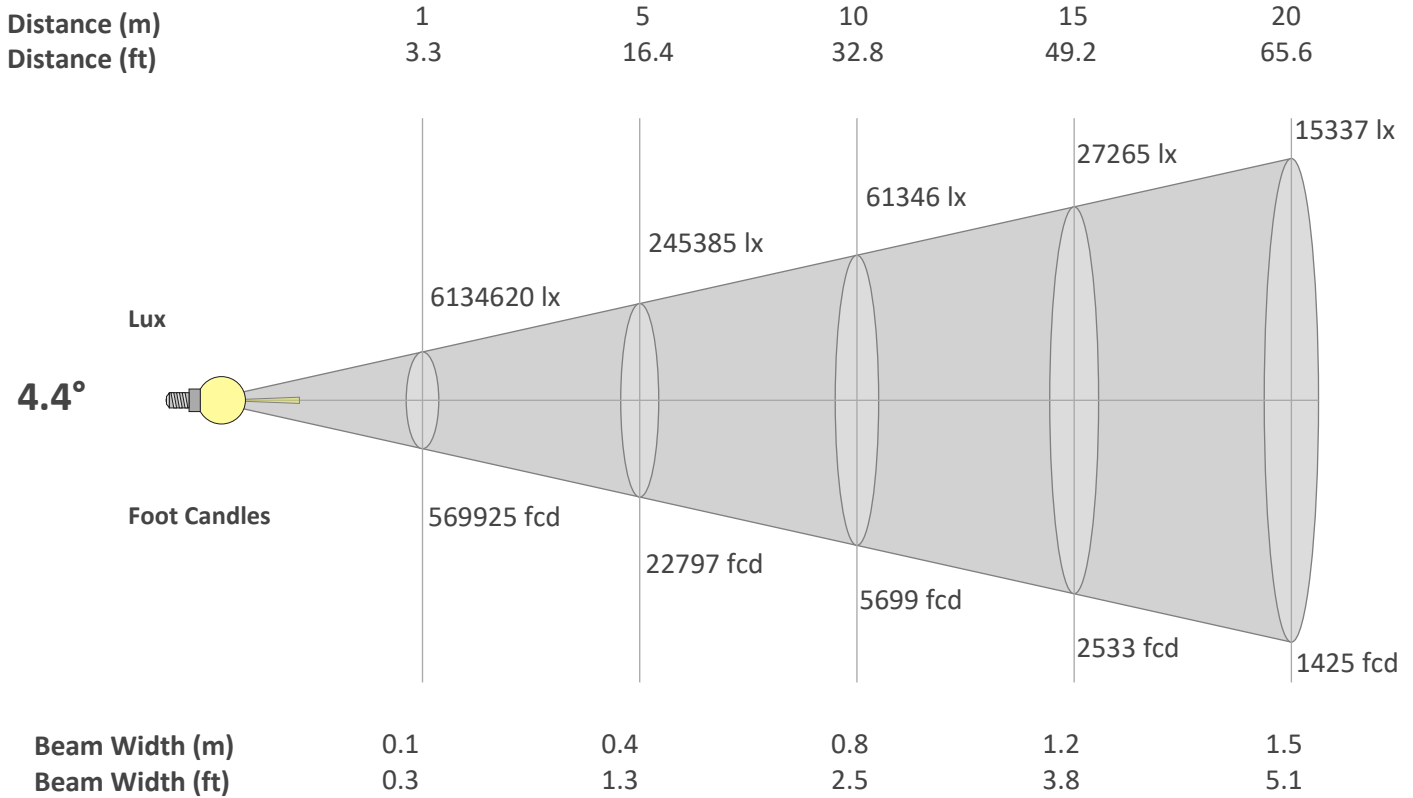
Dominant Wavelength 569 nm



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

Beam Details

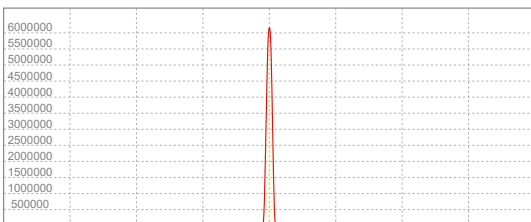
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
4.4°	6.8°	7.9°



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	6134620	1533655	681624	383414	245385	170406	125196	95853	75736	61346	50699	42602	36300	31299	27265	23963	21227	18934	16993	15337
FC	569924.9	142481.2	63325	35620.3	22797	15831.2	11631.1	8905.1	7036.1	5699.2	4710.1	3957.8	3372.3	2907.8	2533	2226.3	1972.1	1759	1578.7	1424.8

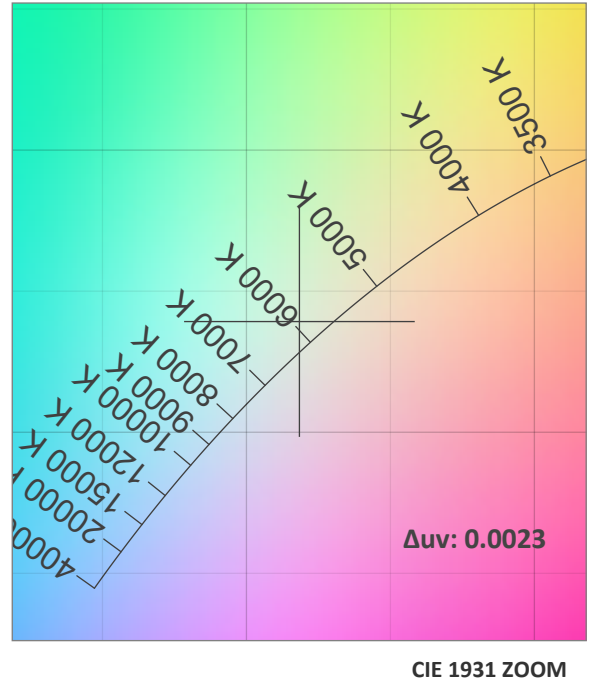
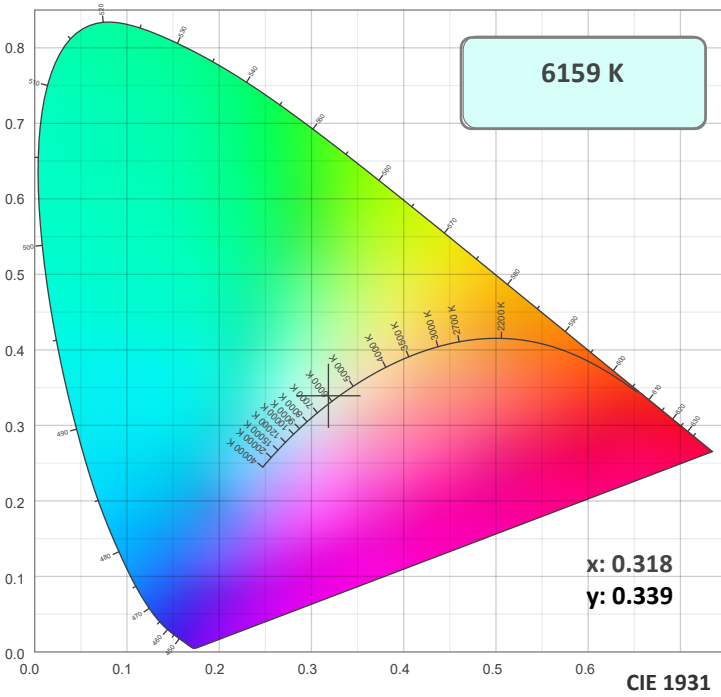
Linear Distribution



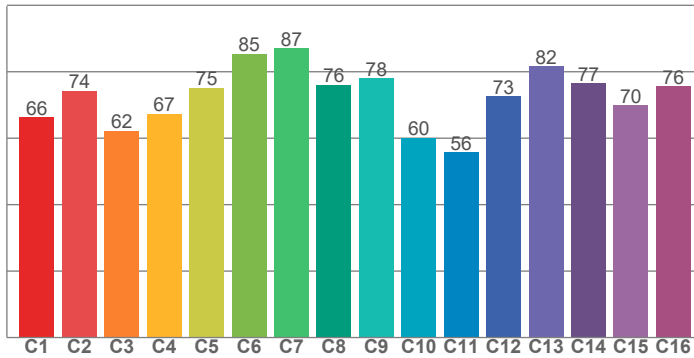
Peak Candela
6156648 cd

Calculate Center Beam Intensities
 $lux = 6156648 / distance(m)^2$
 $fc = 6156648 / distance(ft)^2$

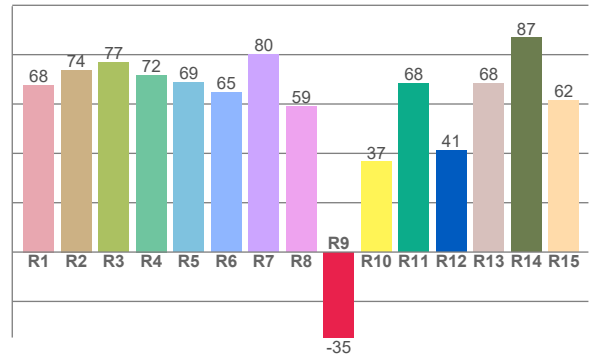
Color Details



TM30: 72.2



CRI: 70.4 (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
67.7	73.8	76.8	71.7	68.9	64.8	80.2	58.9	-34.6	36.5	68.2	41.0	68.2	86.8	61.5

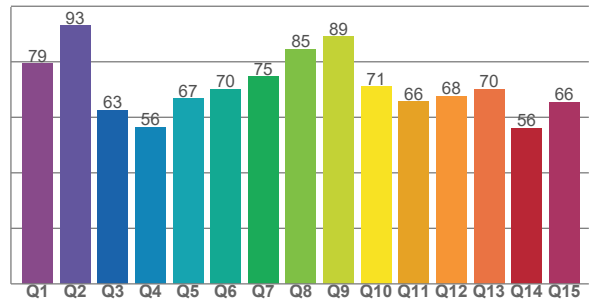
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66.2	74.2	62.2	67.3	75.2	85.5	87.0	76.1	78.0	60.1	55.8	72.6	81.6	76.5	69.9	75.6

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79.3	93.0	62.6	56.4	66.7	70.2	74.7	84.6	89.0	71.0	65.6	67.6	70.2	56.2	65.6

CQS: 69.6



Color Parameters

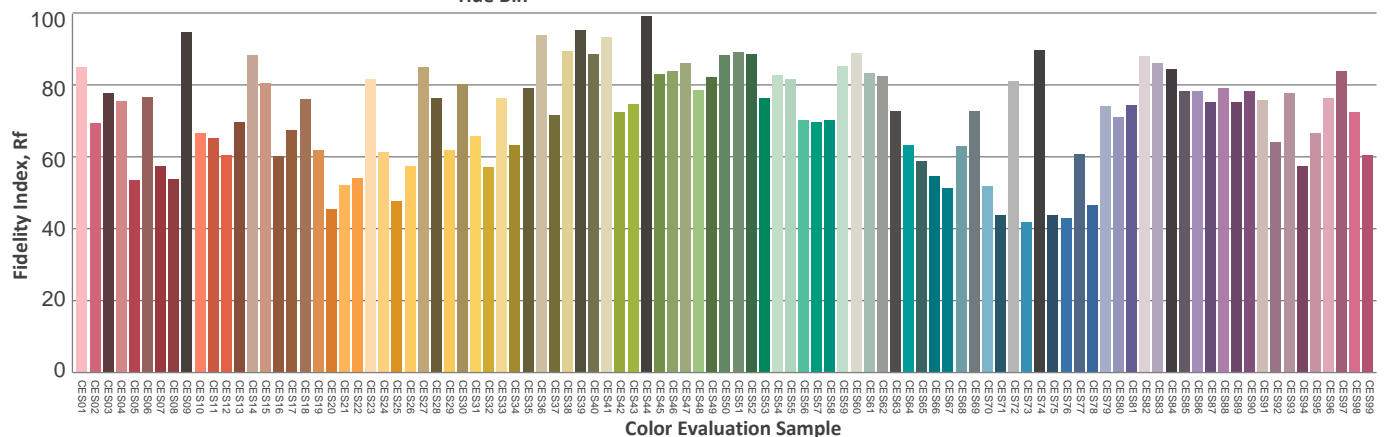
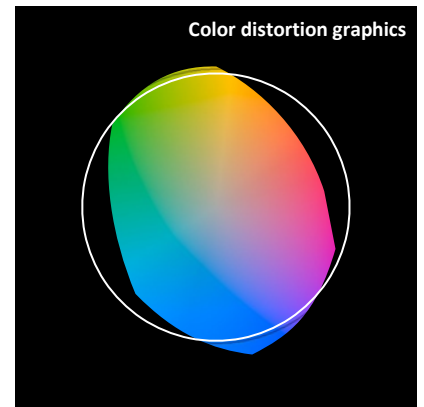
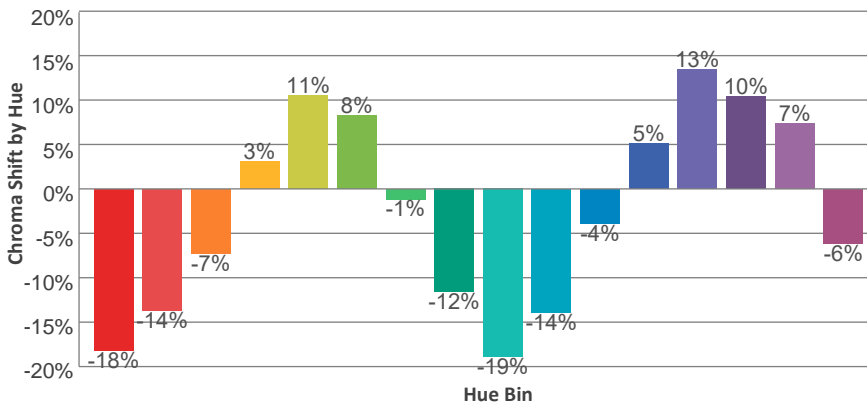
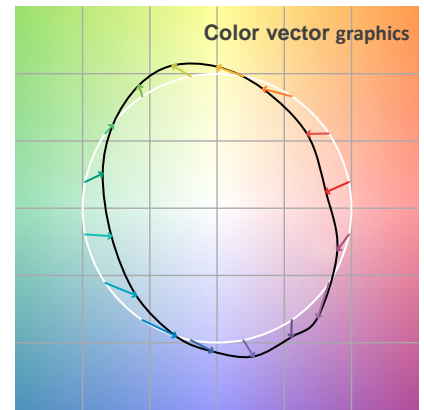
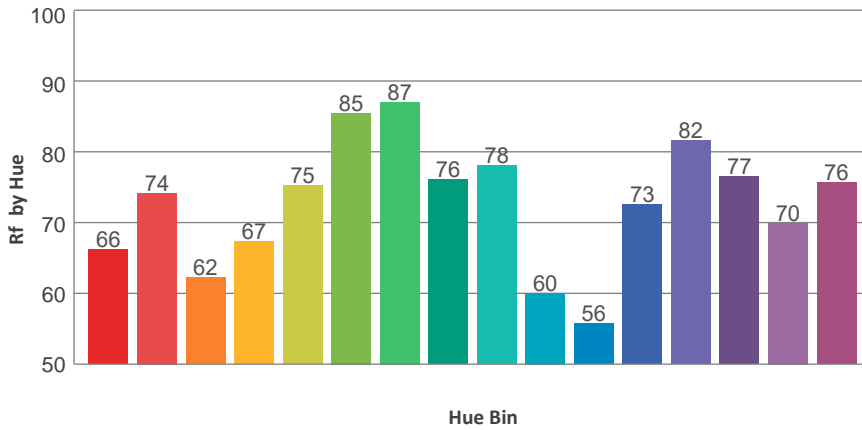
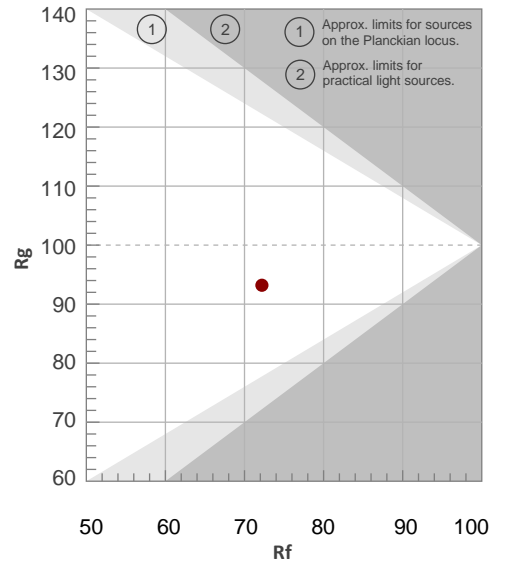
Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Diviation from Black
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6159 K	70.4	-34.6	72.2	93.2	69.6	0.318	0.339	0.198	0.316	0.0023

TM30 Details

Rf 72.2
Fidelity Index Rf

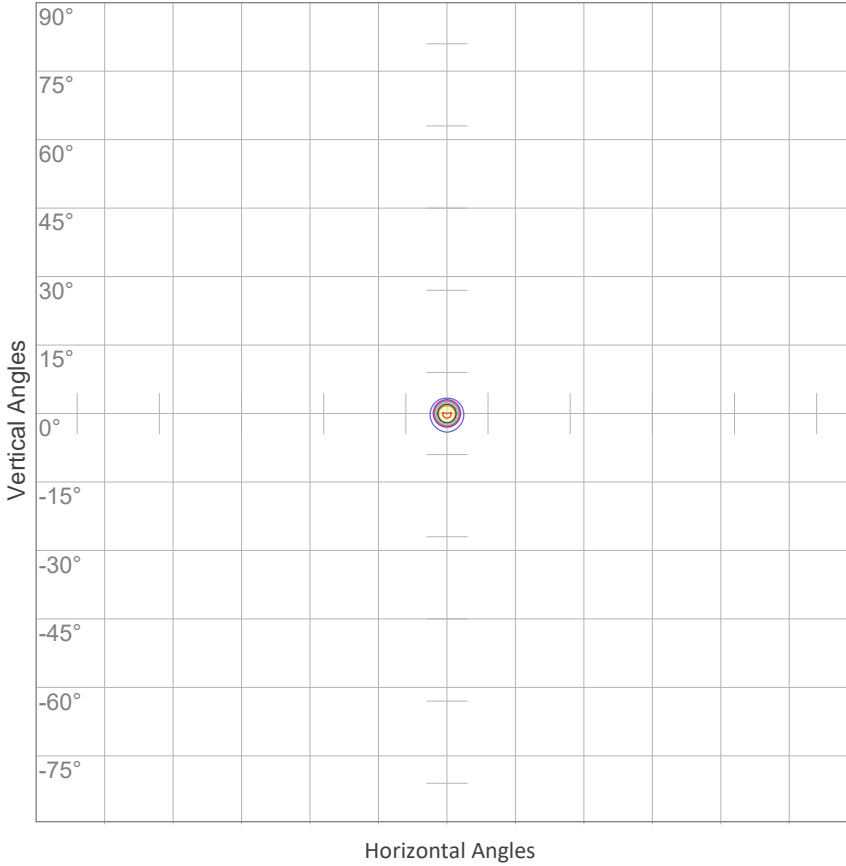
Rg 93.2
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	-18%	-4%
2	74	-14%	9%
3	62	-7%	21%
4	67	3%	20%
5	75	11%	12%
6	85	8%	-2%
7	87	-1%	-9%
8	76	-12%	-9%
9	78	-19%	5%
10	60	-14%	20%
11	56	-4%	27%
12	73	5%	18%
13	82	13%	5%
14	77	10%	-7%
15	70	7%	-26%
16	76	-6%	-13%



ISO Diagrams

ISO Candela Diagram



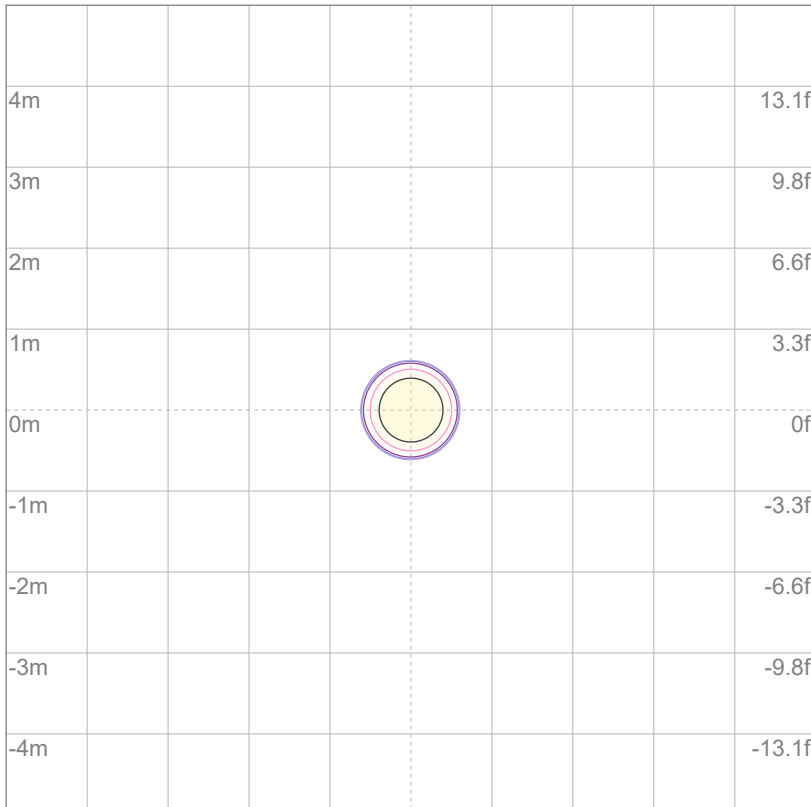
10%	613462 cd
20%	1226924 cd
30%	1840386 cd
40%	2453848 cd
50%	3067310 cd
60%	3680772 cd
70%	4294234 cd
80%	4907696 cd
90%	5521158 cd

Conditions:

Number of c-planes: 2

Candela at center: 6134620 cd

ISO Lux Diagram



3%	1840 lx
5%	3067 lx
10%	6135 lx
30%	18.4K lx
50%	30.7K lx

Conditions:

Number of c-planes: 2

Lux at center: 61.3K 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*

Integrating Sphere 74819lm
 VISO Lab Spion 61055 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
16.4°	22.2°	24.6°

Color Temperature: 6329 K

CRI: 70.2

TLCI: 50

TM30: 72.0

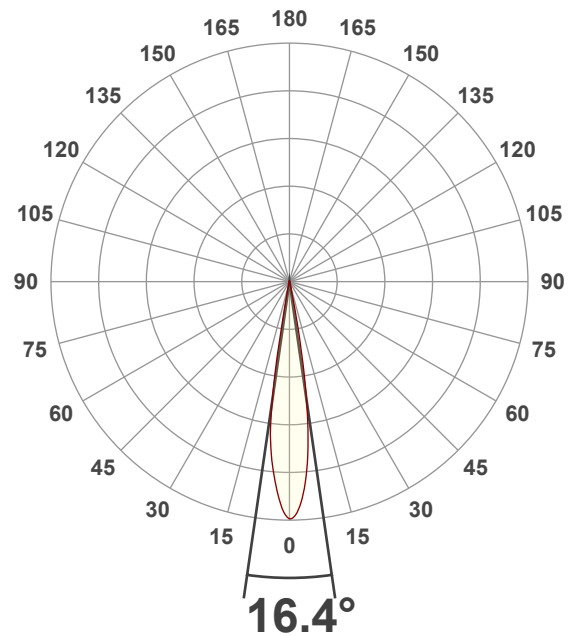
CQS: 69.5

Voltage: 118 V, Current: 13.7 A

Power: 1619.9 W

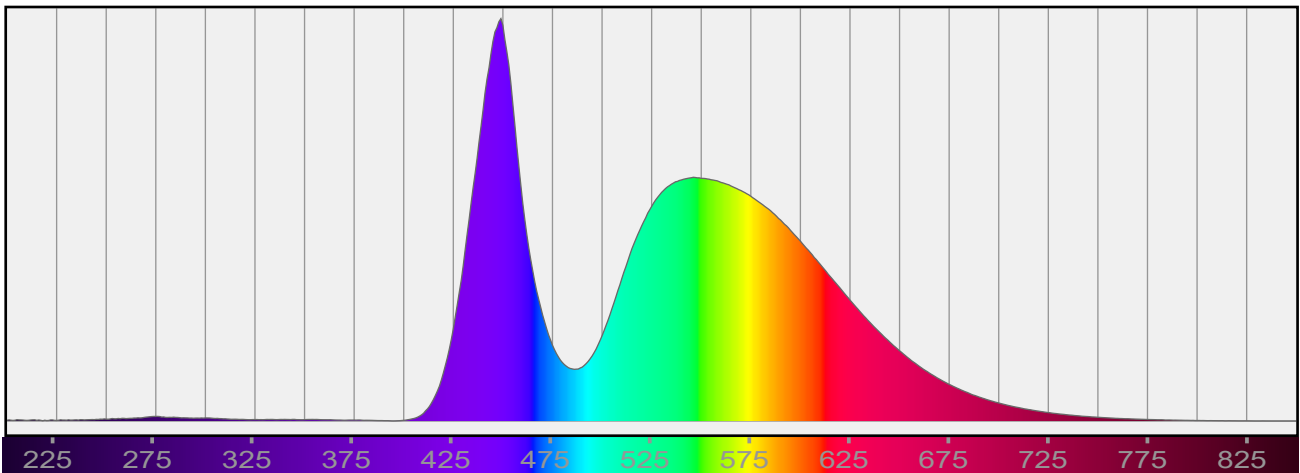
Efficacy: 38 Lumen/Watt

Measurement Date: 8/25/2022



Spectral Distribution

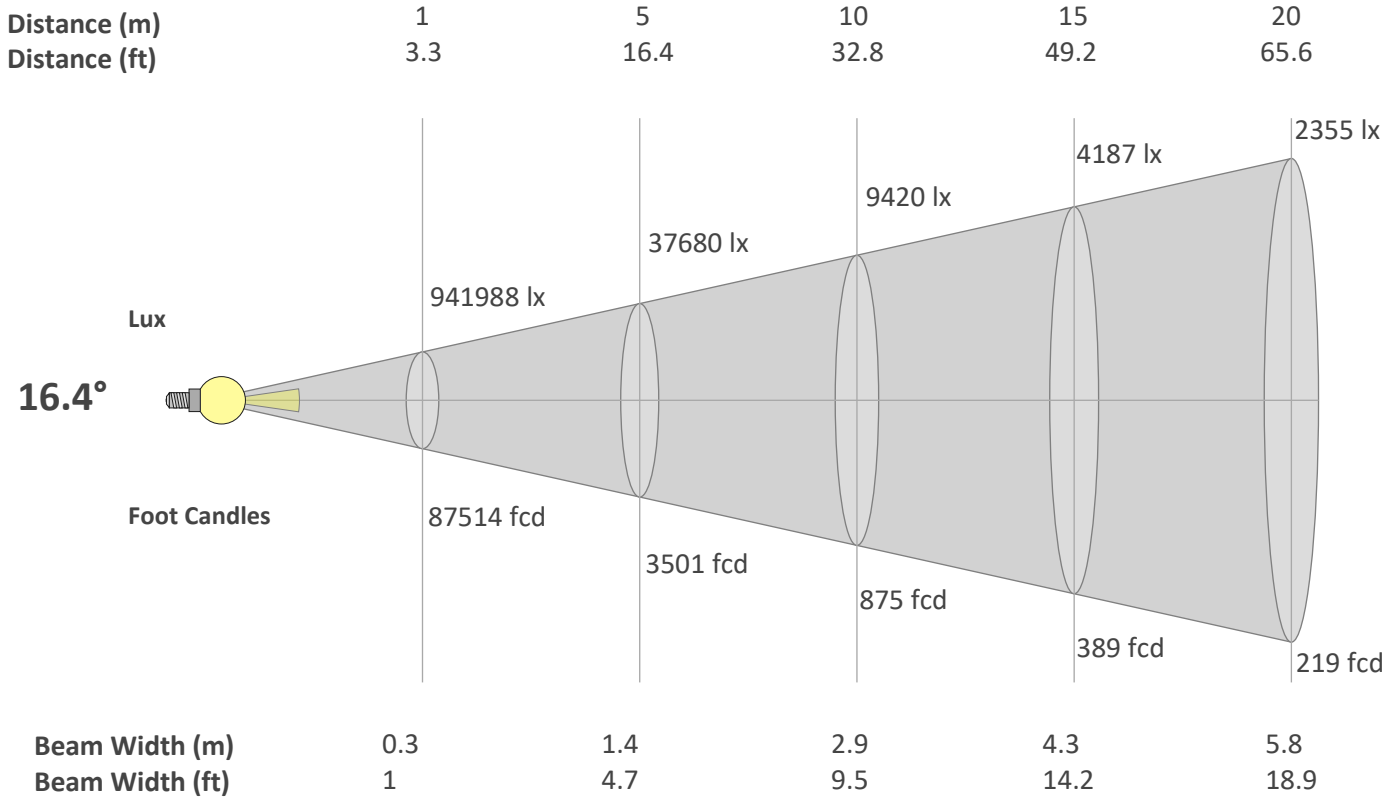
Dominant Wavelength 564 nm



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

Beam Details

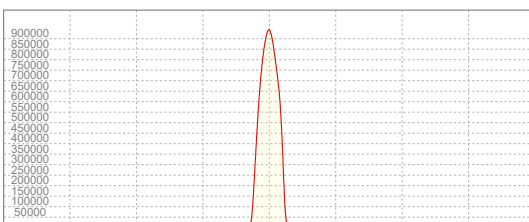
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
16.4°	22.2°	24.6°



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	941988	235497	104665	58874	37680	26166	19224	14719	11629	9420	7785	6542	5574	4806	4187	3680	3259	2907	2609	2355
FC	87513.6	21878.4	9723.7	5469.6	3500.5	2430.9	1786	1367.4	1080.4	875.1	723.3	607.7	517.8	446.5	388.9	341.8	302.8	270.1	242.4	218.8

Linear Distribution



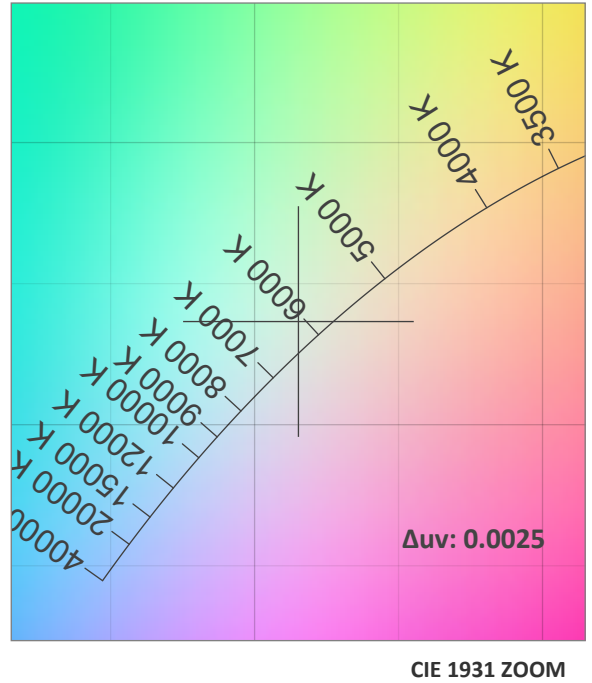
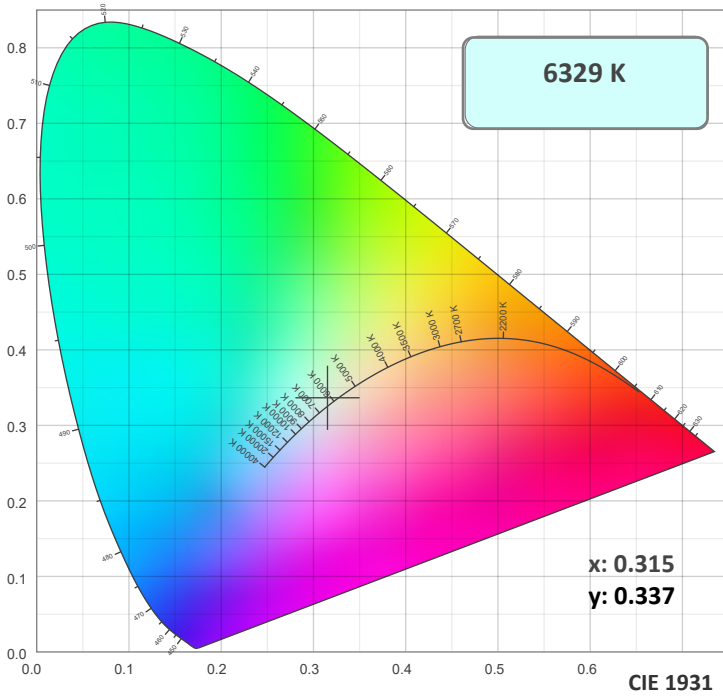
Peak Candela
942026 cd

Calculate Center Beam Intensities

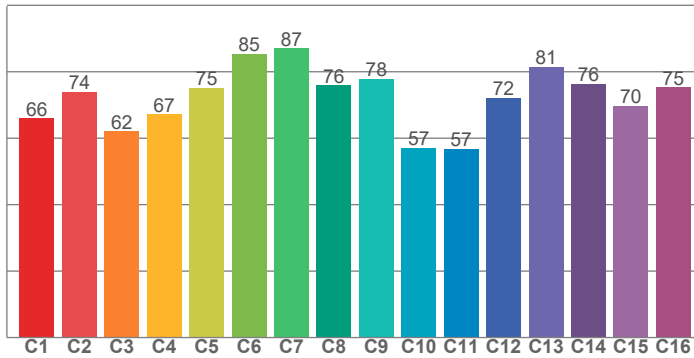
$lux = 942026 / distance(m)^2$

$fc = 942026 / distance(ft)^2$

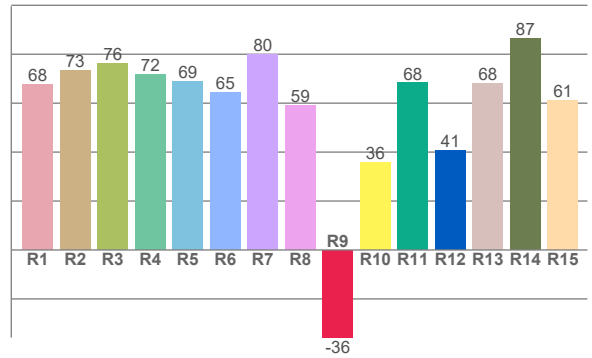
Color Details



TM30: 72.0



CRI: 70.2 (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
67.5	73.5	76.3	71.6	68.8	64.6	80.1	59.0	-35.8	35.8	68.3	40.8	68.0	86.5	61.3

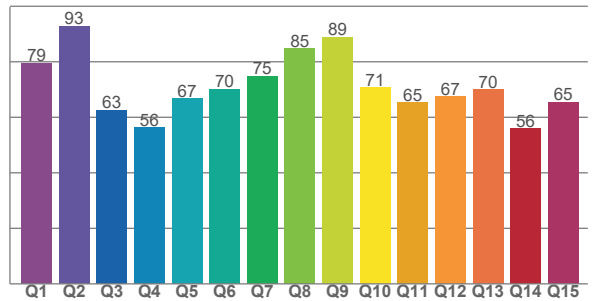
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
66.0	74.0	62.0	67.1	75.1	85.4	87.1	75.9	77.9	57.1	56.9	72.2	81.4	76.4	69.7	75.3

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79.4	92.9	62.6	56.3	66.7	70.2	74.8	84.7	88.8	70.8	65.3	67.4	70.0	55.8	65.5

CQS: 69.5



Color Parameters

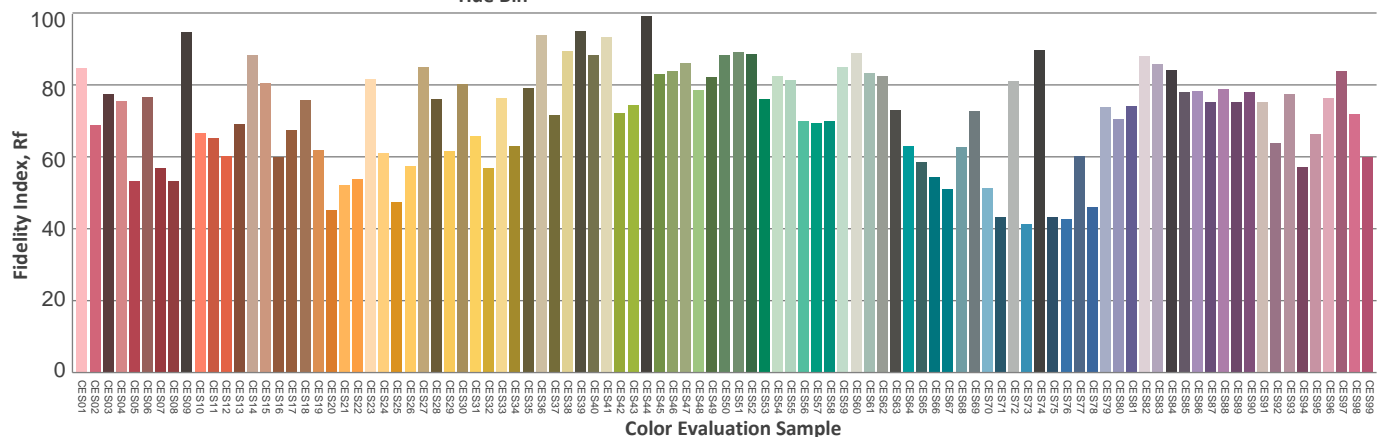
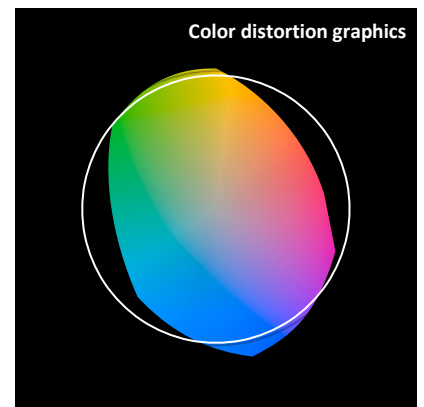
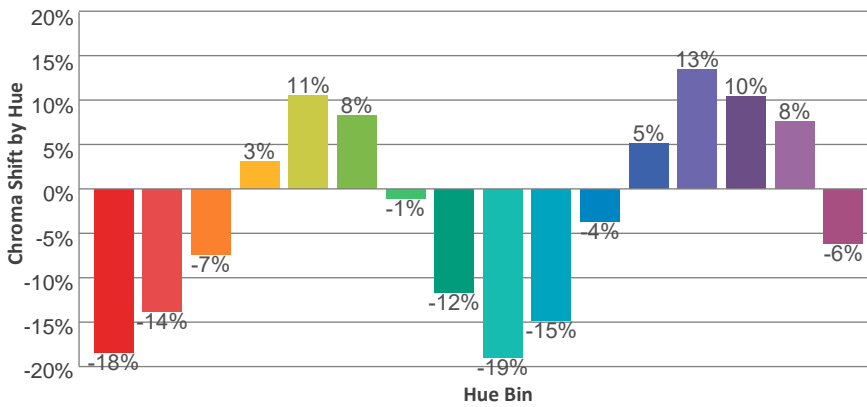
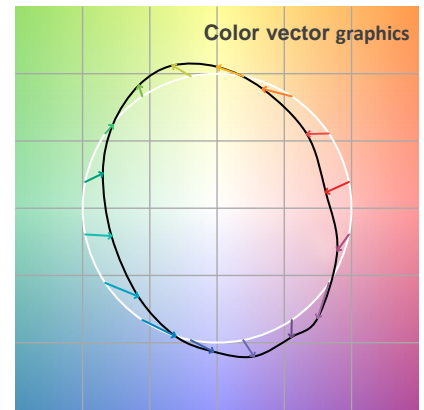
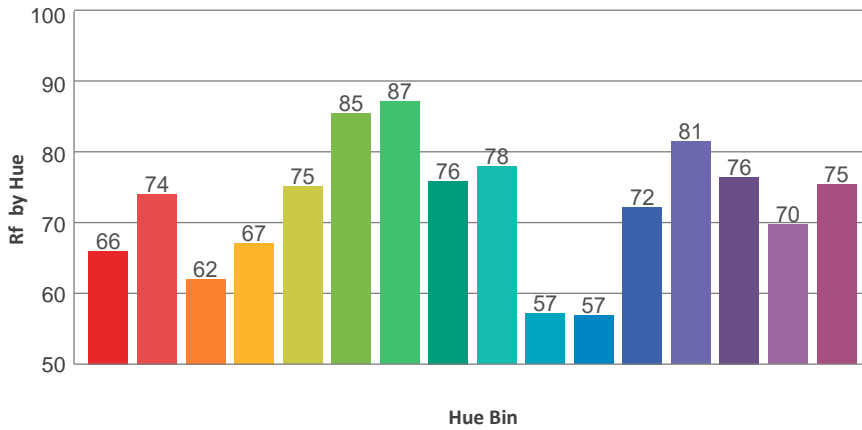
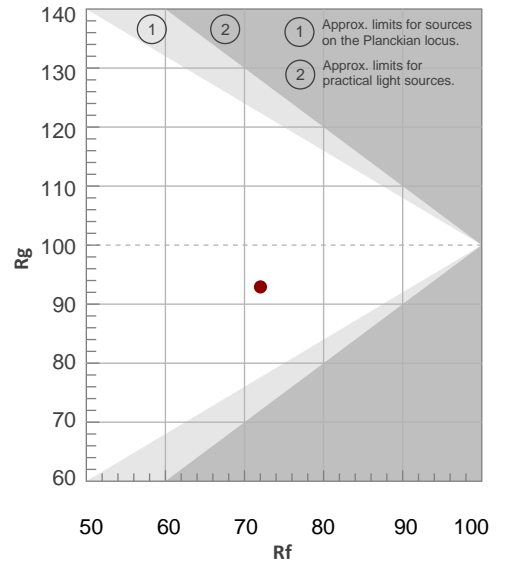
Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Diviation from Black
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6329 K	70.2	-35.8	72.0	92.9	69.5	0.315	0.337	0.197	0.315	0.0025

TM30 Details

Rf 72.0
Fidelity Index Rf

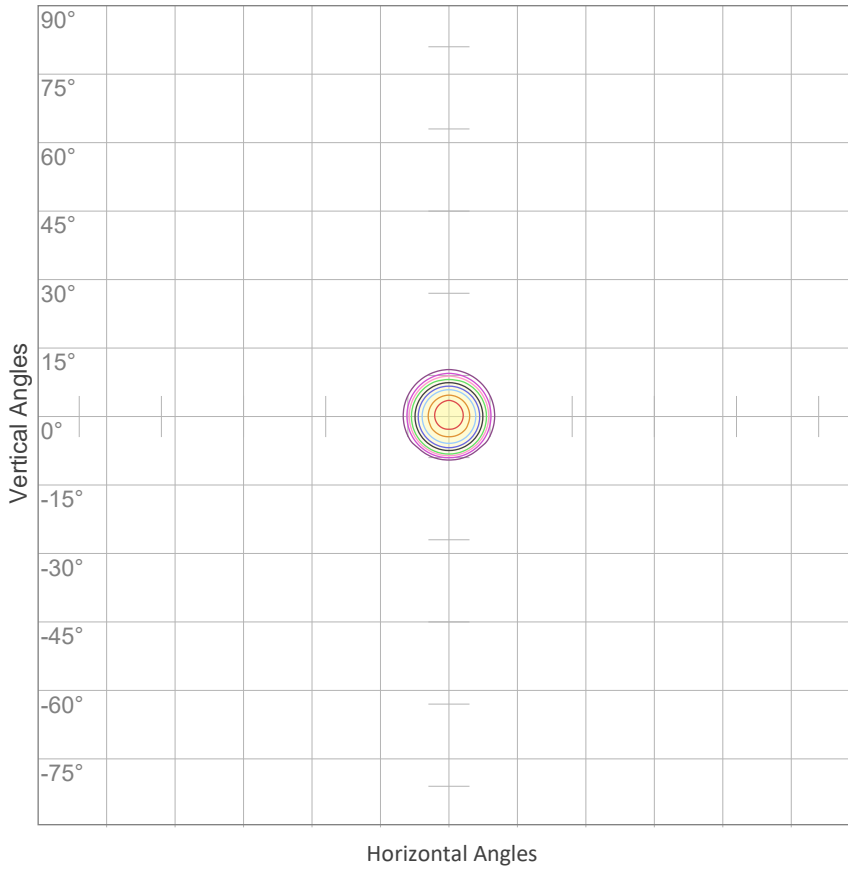
Rg 92.9
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	-18%	-4%
2	74	-14%	9%
3	62	-7%	21%
4	67	3%	20%
5	75	11%	12%
6	85	8%	-2%
7	87	-1%	-9%
8	76	-12%	-9%
9	78	-19%	5%
10	57	-15%	22%
11	57	-4%	27%
12	72	5%	18%
13	81	13%	5%
14	76	10%	-7%
15	70	8%	-26%
16	75	-6%	-13%



ISO Diagrams

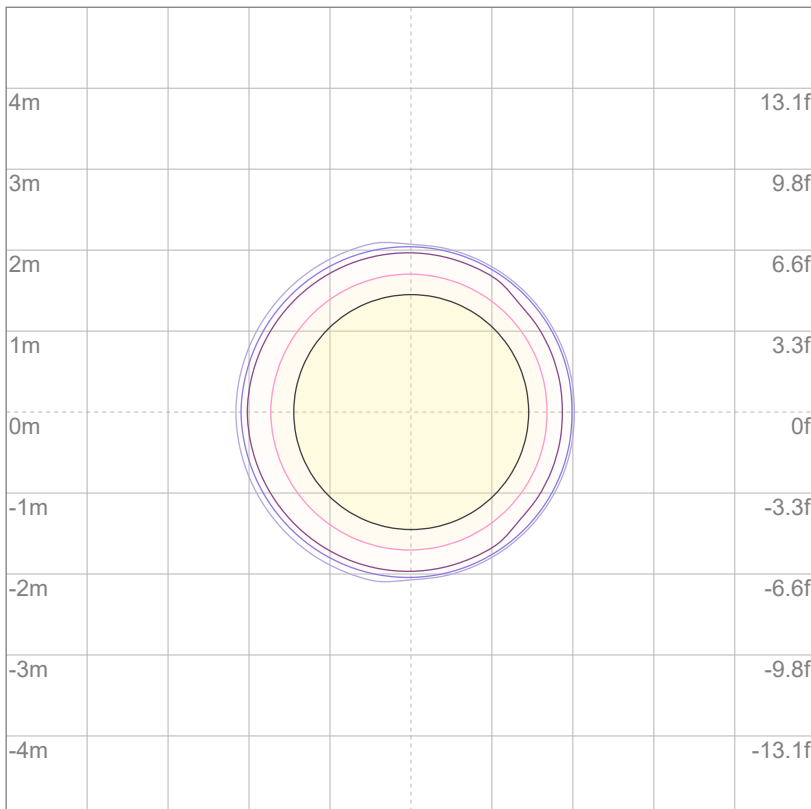
ISO Candela Diagram



10%	94199 cd
20%	188398 cd
30%	282597 cd
40%	376795 cd
50%	470994 cd
60%	565193 cd
70%	659392 cd
80%	753591 cd
90%	847790 cd

Conditions:
 Number of c-planes: 2
 Candela at center: 941988 cd

ISO Lux Diagram



3%	283 lx
5%	471 lx
10%	942 lx
30%	2826 lx
50%	4710 lx

Conditions:
 Number of c-planes: 2
 Lux at center: 9420 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*

Integrating Sphere

VISO Lab Spion **62031 lm**

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
39.4°	49.7°	53.5°

Color Temperature: 6325 K

CRI: 70.0

TLCI: 49

TM30: 71.8

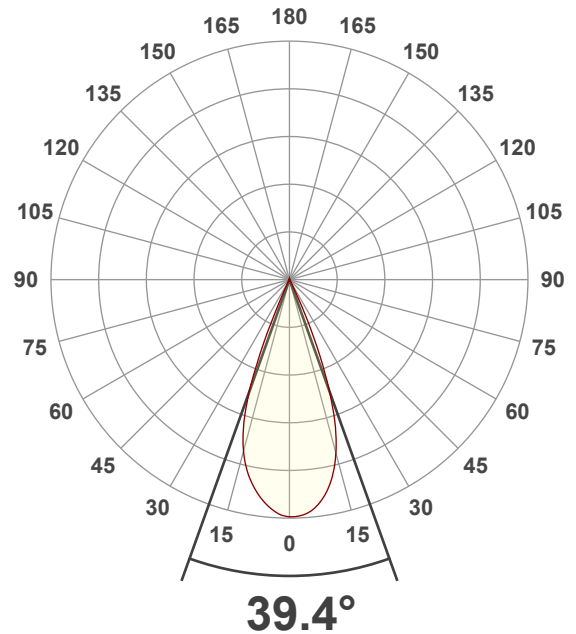
CQS: 69.4

Voltage: 119 V, Current: 13.7 A

Power: 1620 W

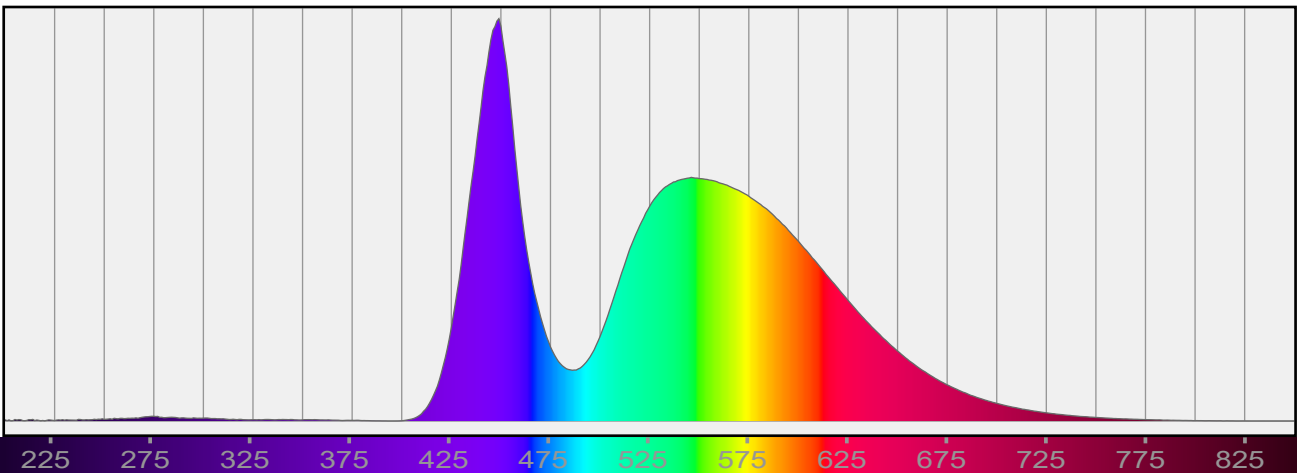
Efficacy: 38 Lumen/Watt

Measurement Date: 8/25/2022



Spectral Distribution

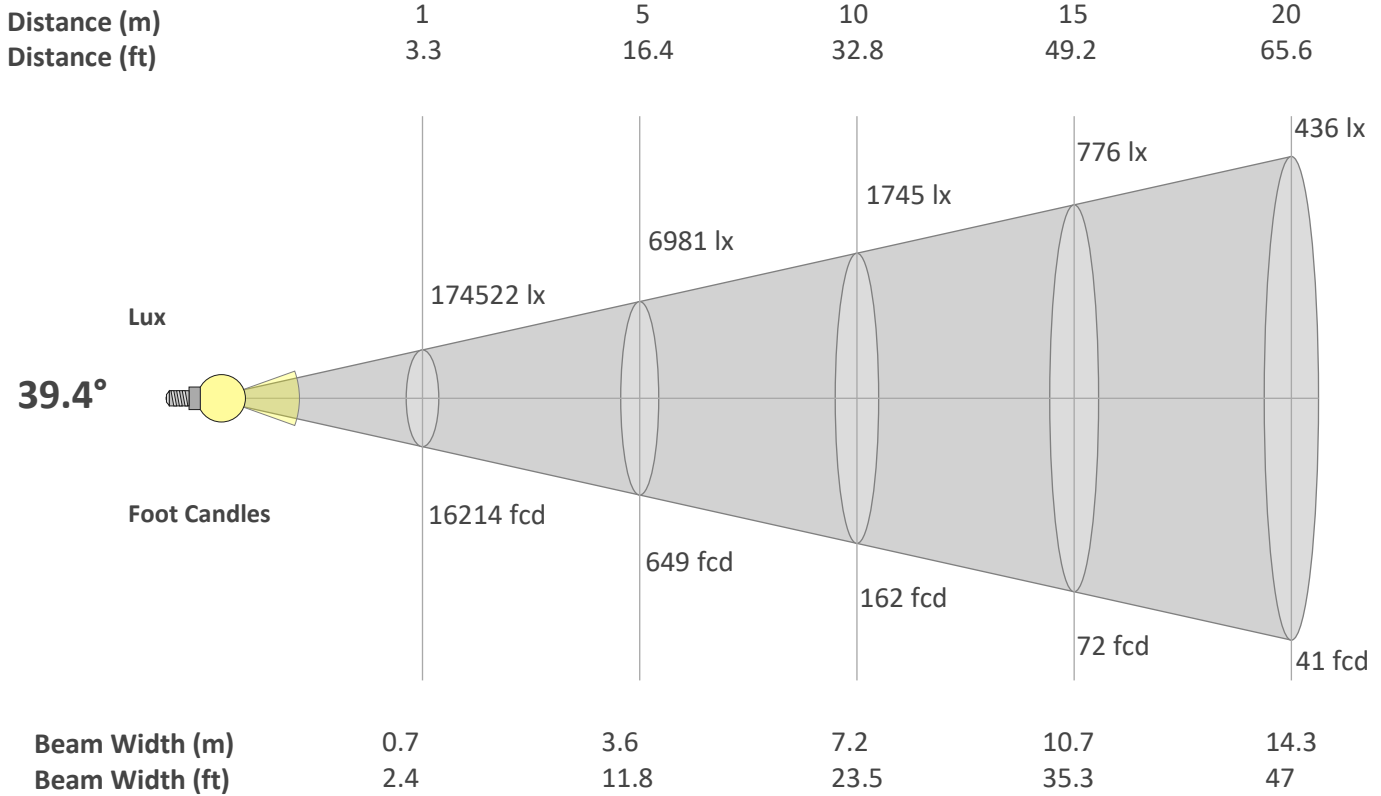
Dominant Wavelength 564 nm



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

Beam Details

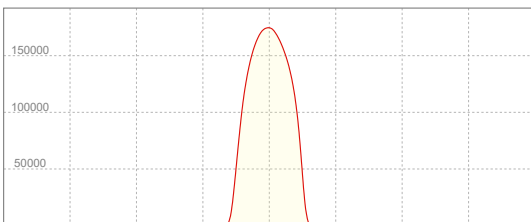
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
39.4°	49.7°	53.5°



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	174522	43631	19391	10908	6981	4848	3562	2727	2155	1745	1442	1212	1033	890	776	682	604	539	483	436
FC	16213.6	4053.4	1801.5	1013.4	648.5	450.4	330.9	253.3	200.2	162.1	134	112.6	95.9	82.7	72.1	63.3	56.1	50	44.9	40.5

Linear Distribution



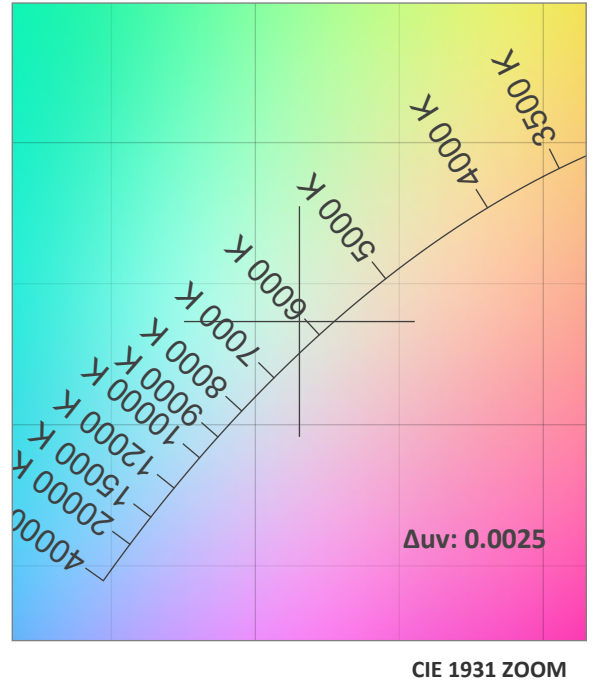
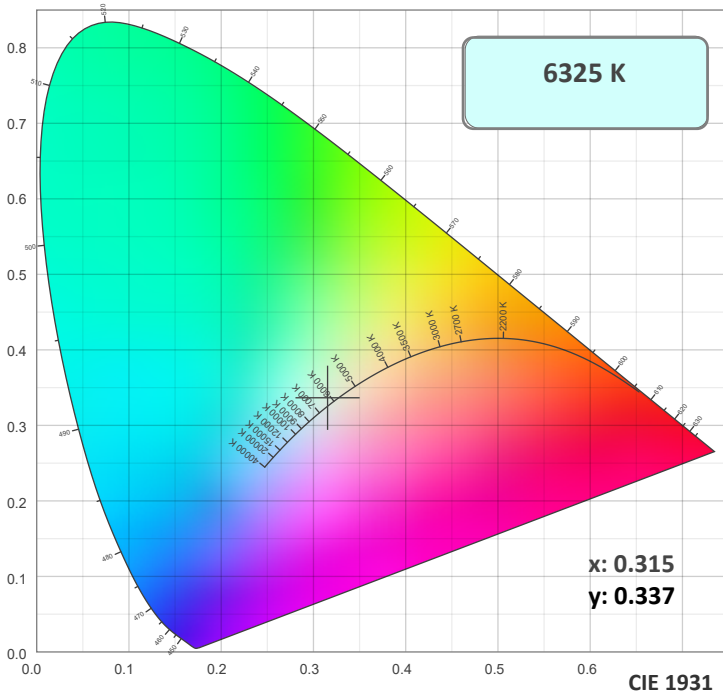
Peak Candela
174535 cd

Calculate Center Beam Intensities

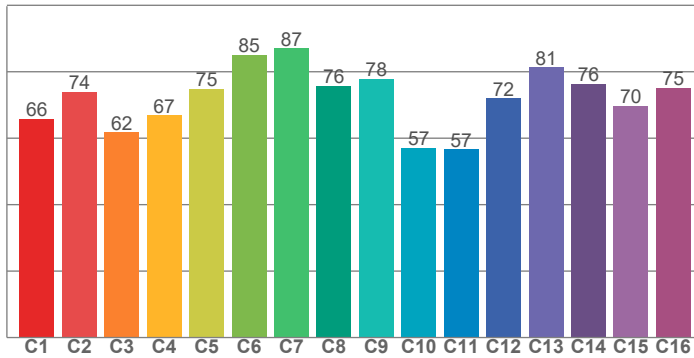
$lux = 174535 / distance(m)^2$

$fc = 174535 / distance(ft)^2$

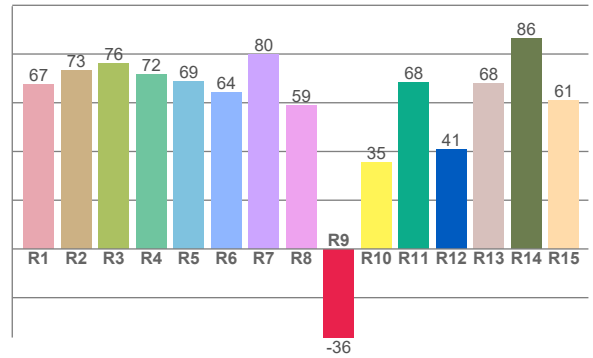
Color Details



TM30: 71.8



CRI: 70.0 (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
67.4	73.3	76.1	71.5	68.7	64.4	79.9	58.8	-36.4	35.4	68.2	40.7	67.8	86.4	61.1

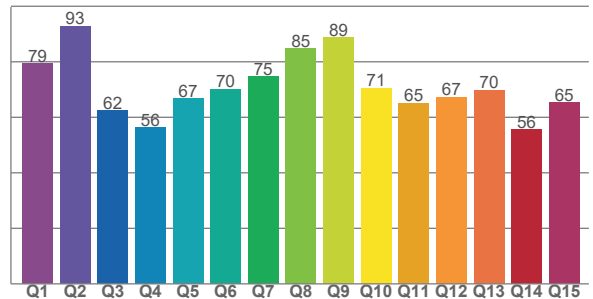
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
65.8	73.9	61.8	66.8	74.8	85.2	87.0	75.7	77.9	57.0	56.6	72.0	81.3	76.3	69.7	75.2

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79.3	92.8	62.5	56.2	66.7	70.2	74.7	84.7	88.7	70.6	65.2	67.2	69.8	55.6	65.3

CQS: 69.4



Color Parameters

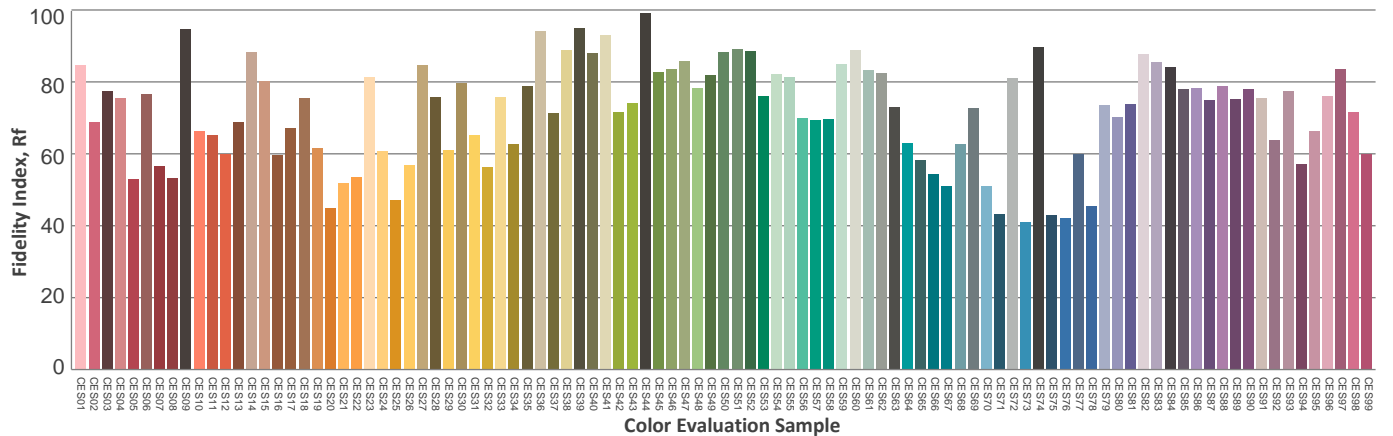
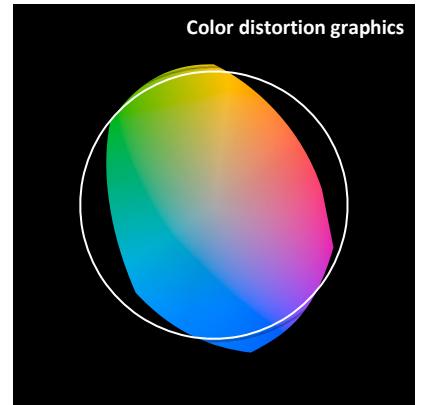
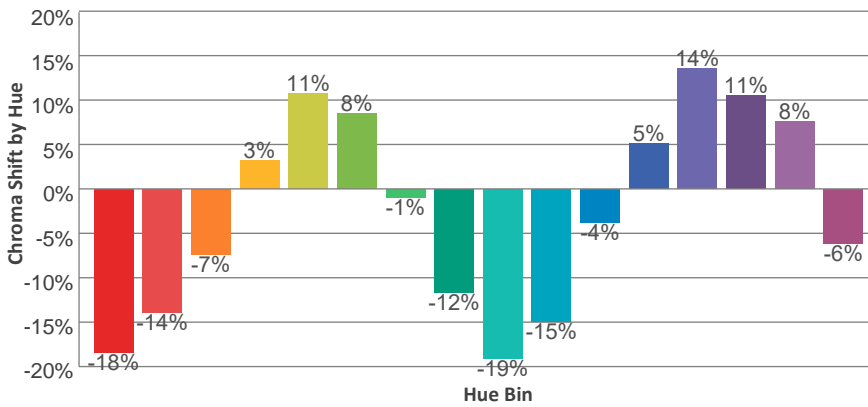
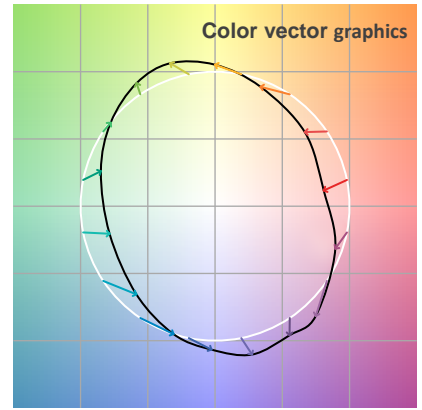
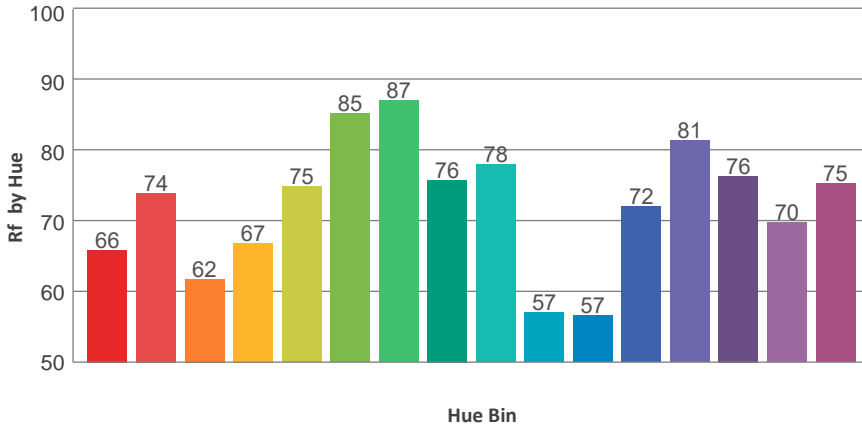
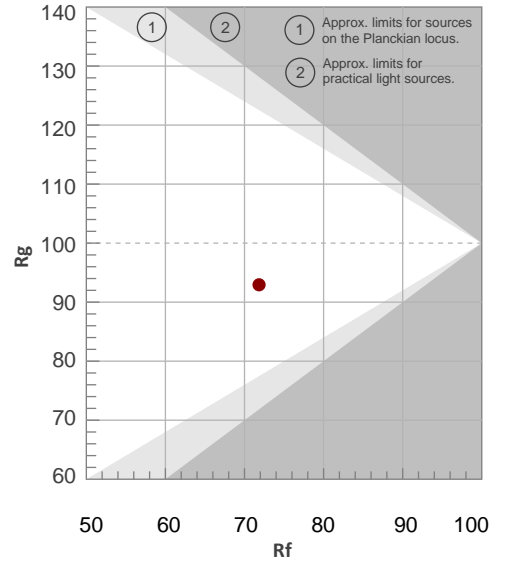
Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Diviation from Black
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
6325 K	70.0	-36.4	71.8	92.9	69.4	0.315	0.337	0.197	0.315	0.0025

TM30 Details

Rf 71.8
Fidelity Index Rf

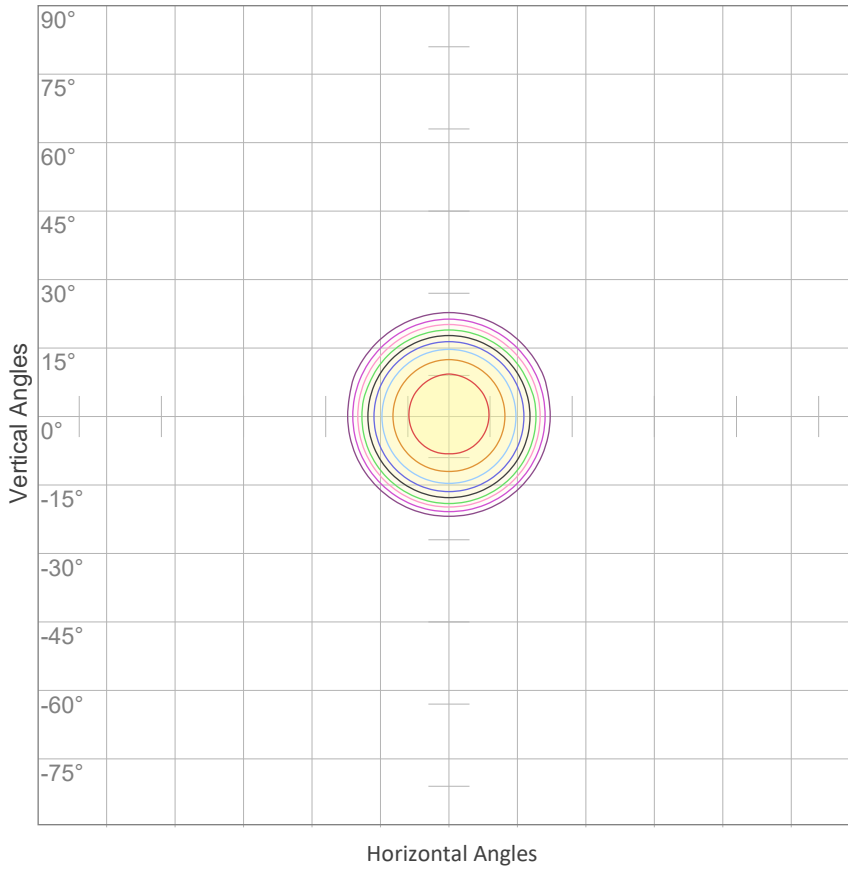
Rg 92.9
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	66	-18%	-4%
2	74	-14%	9%
3	62	-7%	21%
4	67	3%	21%
5	75	11%	12%
6	85	8%	-2%
7	87	-1%	-9%
8	76	-12%	-9%
9	78	-19%	5%
10	57	-15%	22%
11	57	-4%	27%
12	72	5%	18%
13	81	14%	6%
14	76	11%	-7%
15	70	8%	-26%
16	75	-6%	-14%



ISO Diagrams

ISO Candela Diagram

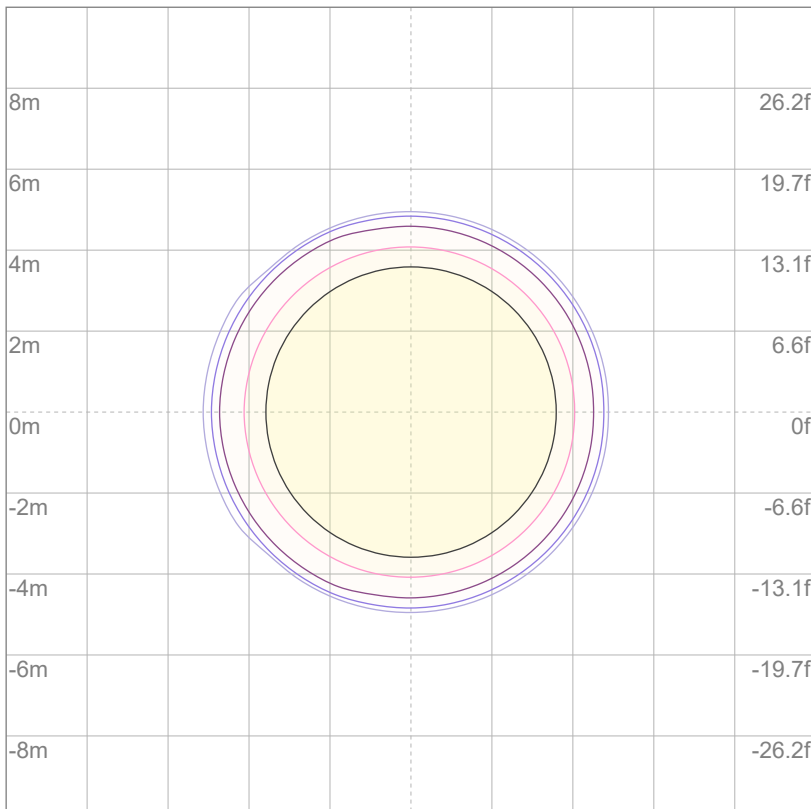


10%	17452 cd
20%	34904 cd
30%	52357 cd
40%	69809 cd
50%	87261 cd
60%	104713 cd
70%	122166 cd
80%	139618 cd
90%	157070 cd

Conditions:

Number of c-planes: 2
Candela at center: 174522 cd

ISO Lux Diagram



3%	52.4 lx
5%	87.3 lx
10%	175 lx
30%	524 lx
50%	873 lx

Conditions:

Number of c-planes: 2
Lux at center: 1745 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 47943 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
17°	21.7°	23.5°

Color Temperature: 5826 K

CRI: 81.7

TLCI: 60

TM30: 79.3

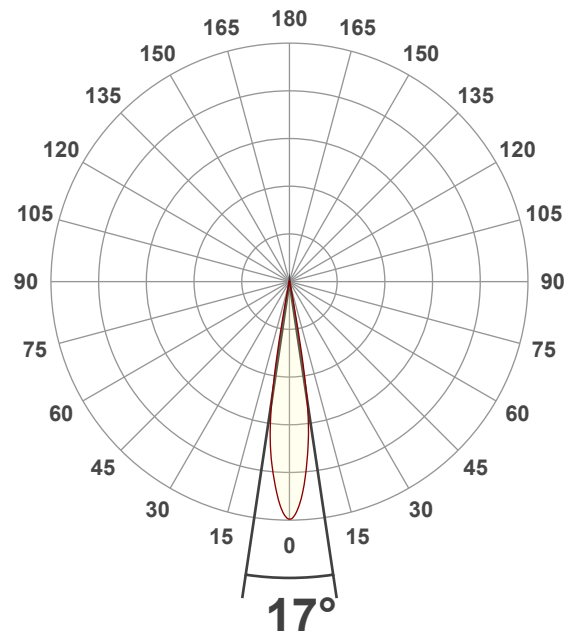
CQS: 77.0

Voltage: 118 V, Current: 10.5 A

Power: 1238 W

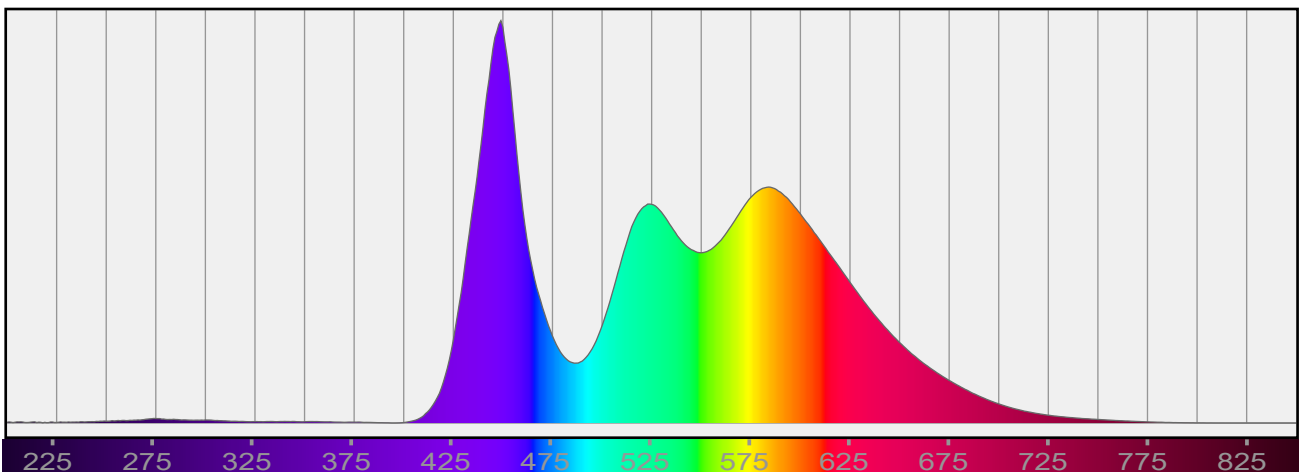
Efficacy: 39 Lumen/Watt

Measurement Date: 8/25/2022



Spectral Distribution

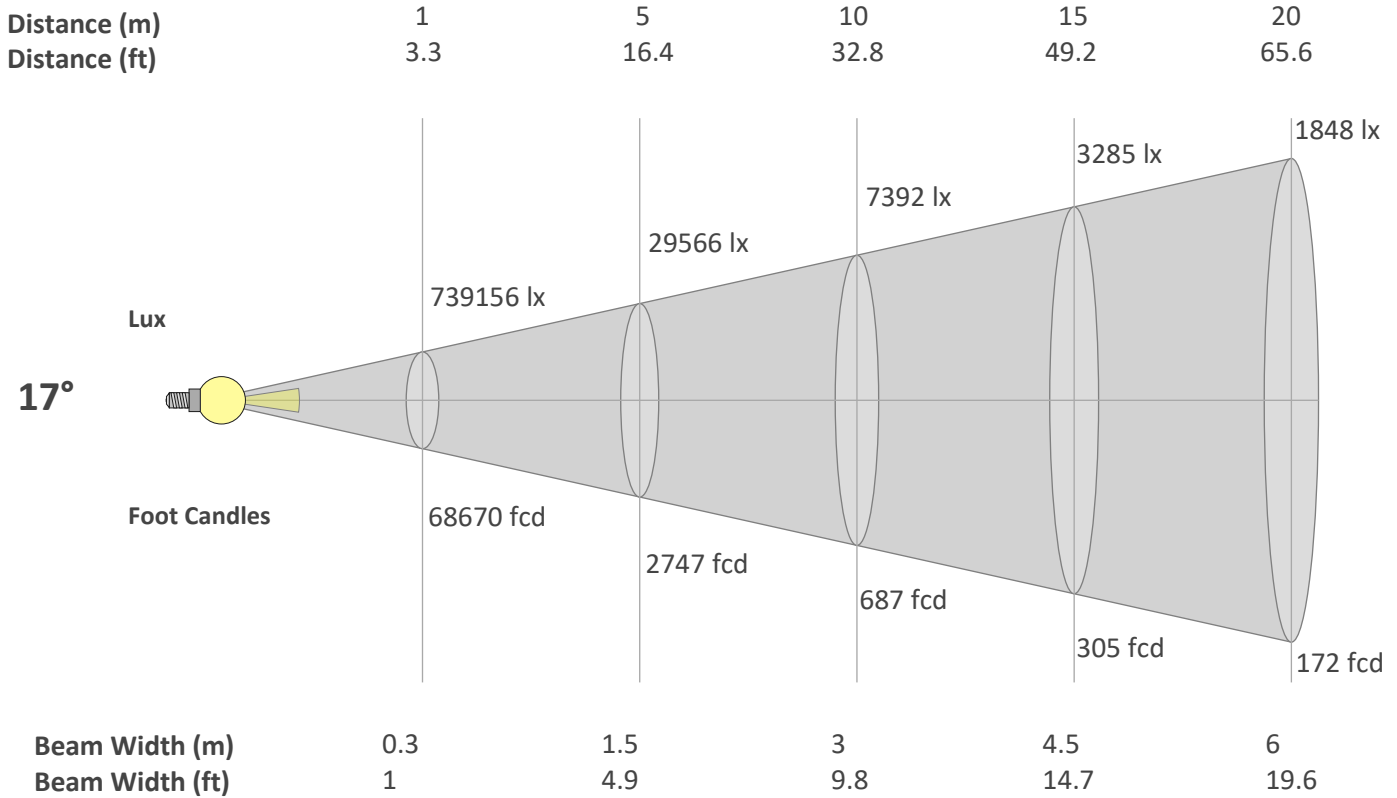
Dominant Wavelength 829 nm



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

Beam Details

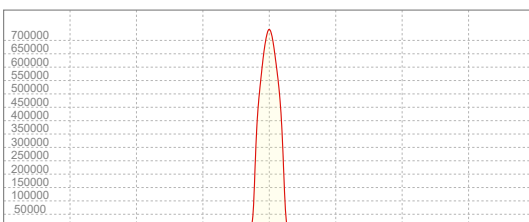
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
17°	21.7°	23.5°



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	739156	184789	82128	46197	29566	20532	15085	11549	9125	7392	6109	5133	4374	3771	3285	2887	2558	2281	2048	1848
FC	68669.9	17167.5	7630	4291.9	2746.8	1907.5	1401.4	1073	847.8	686.7	567.5	476.9	406.3	350.4	305.2	268.2	237.6	211.9	190.2	171.7

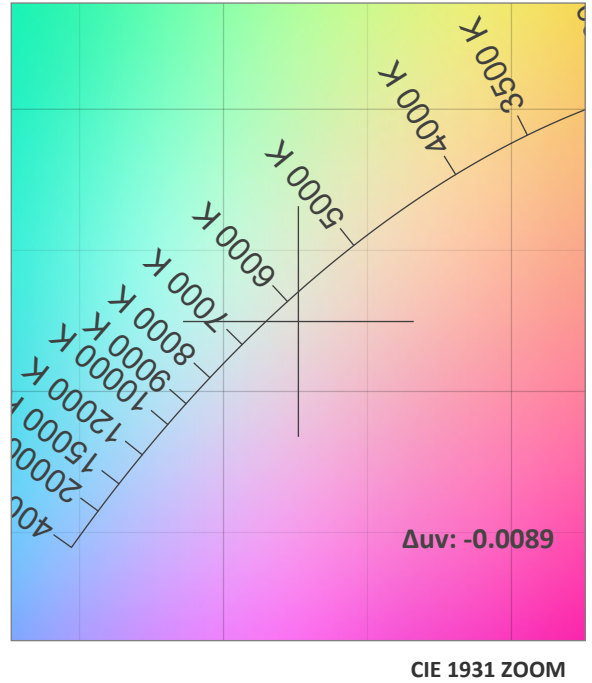
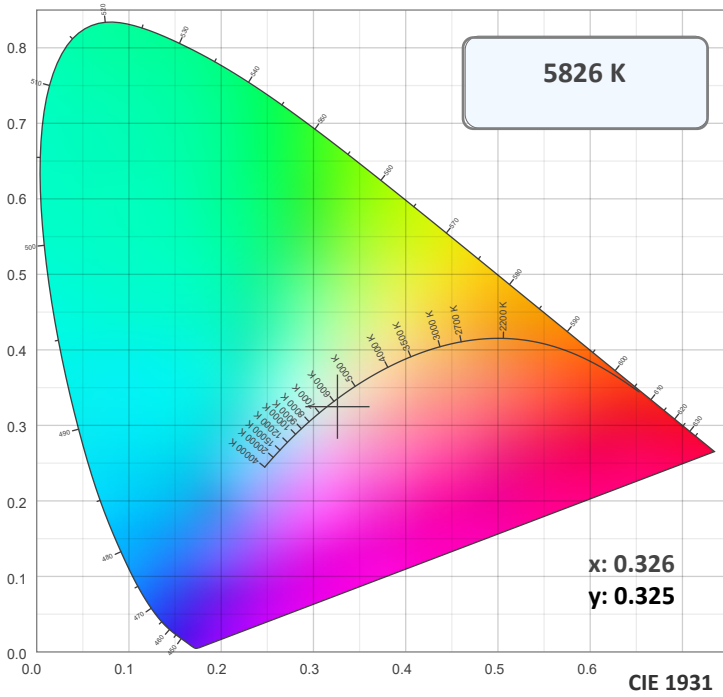
Linear Distribution



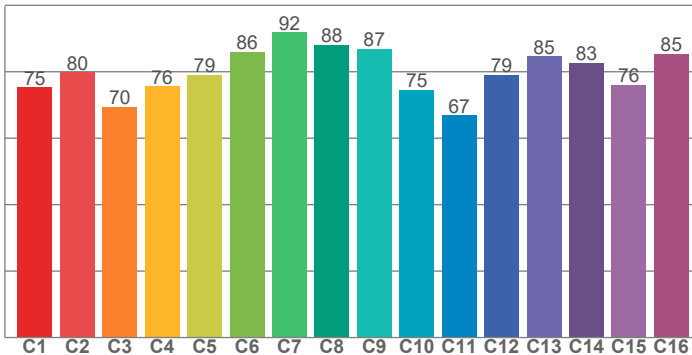
Peak Candela
739421 cd

Calculate Center Beam Intensities
 $lux = 739421 / distance(m)^2$
 $fc = 739421 / distance(ft)^2$

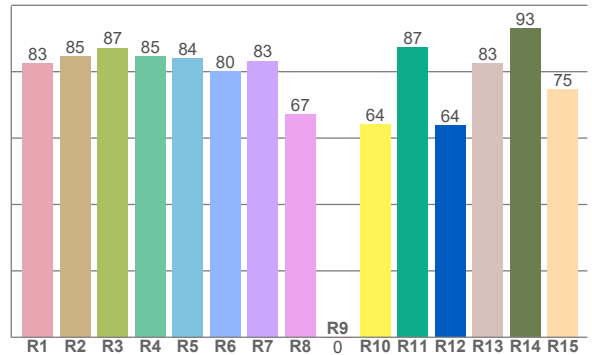
Color Details



TM30: 79.3



CRI: 81.7 (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
82.5	84.5	87.2	84.5	84.1	80.1	83.3	67.2	-0.1	64.3	87.2	63.8	82.6	93.0	74.8

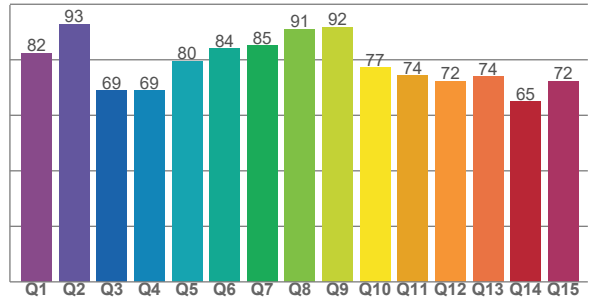
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
75.4	79.9	69.5	75.7	79.0	86.1	91.8	88.1	87.0	74.6	66.9	79.1	84.7	82.7	76.0	85.3

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.3	92.9	68.9	68.9	79.6	84.0	85.0	91.0	91.7	77.1	74.3	72.3	73.9	65.0	72.4

CQS: 77.0



Color Parameters

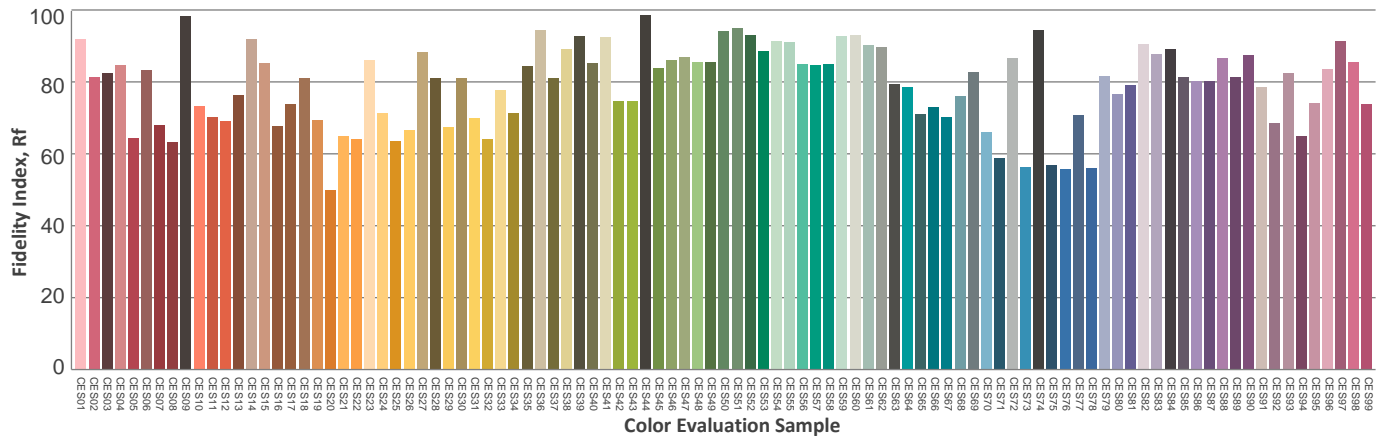
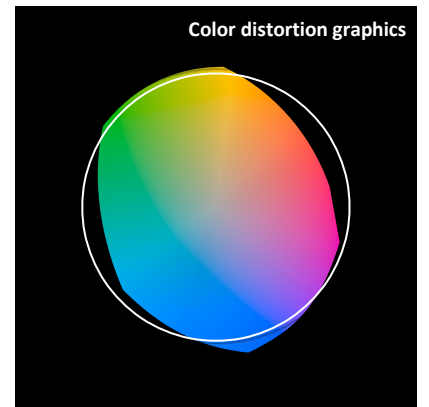
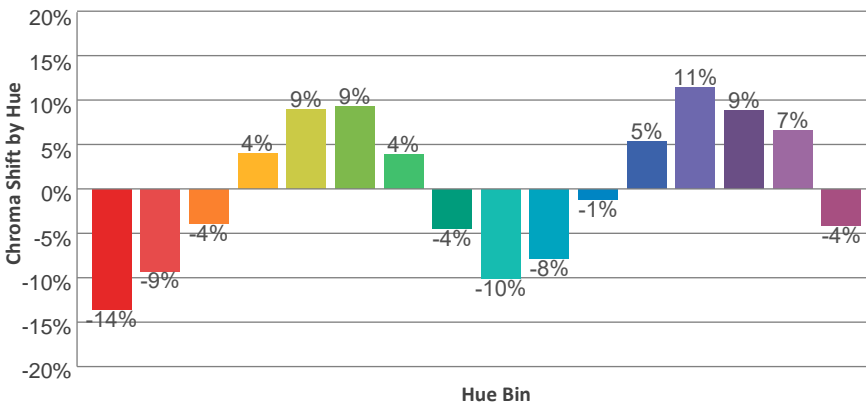
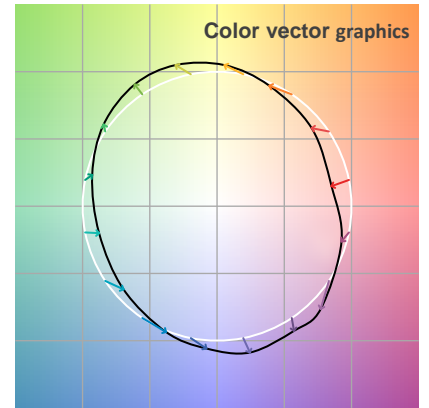
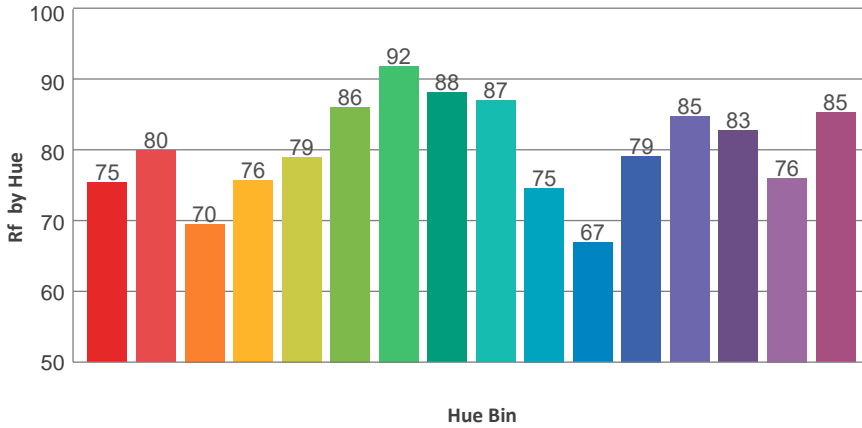
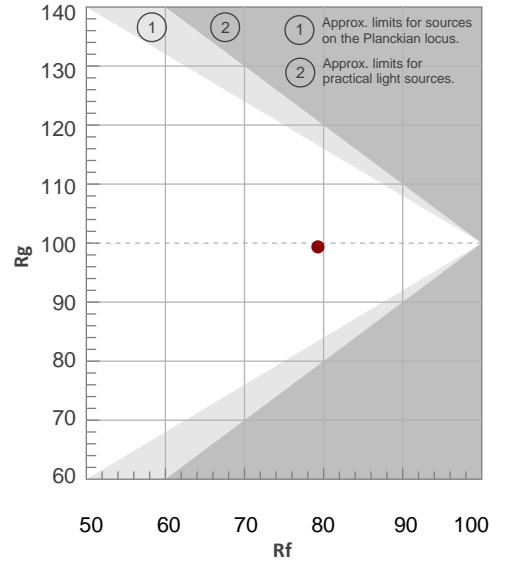
Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Diviation from Black
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5826 K	81.7	-0.1	79.3	99.4	77.0	0.326	0.325	0.209	0.312	-0.0089

TM30 Details

Rf 79.3
Fidelity Index Rf

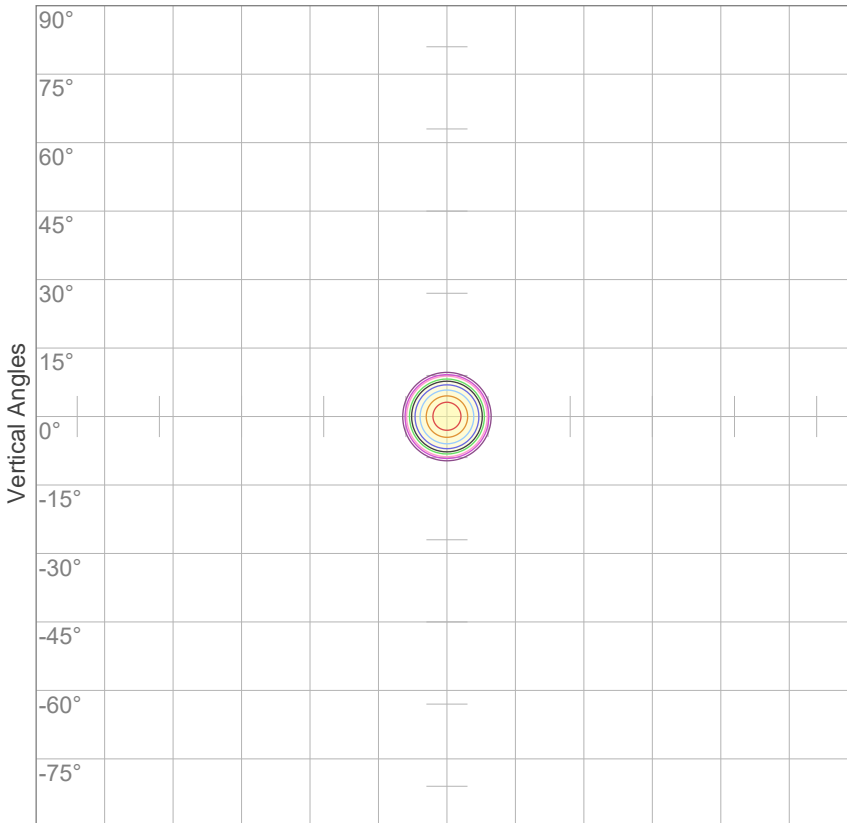
Rg 99.4
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	75	-14%	-2%
2	80	-9%	9%
3	70	-4%	17%
4	76	4%	15%
5	79	9%	10%
6	86	9%	1%
7	92	4%	-4%
8	88	-4%	-5%
9	87	-10%	3%
10	75	-8%	13%
11	67	-1%	20%
12	79	5%	13%
13	85	11%	3%
14	83	9%	-4%
15	76	7%	-21%
16	85	-4%	-8%



ISO Diagrams

ISO Candela Diagram

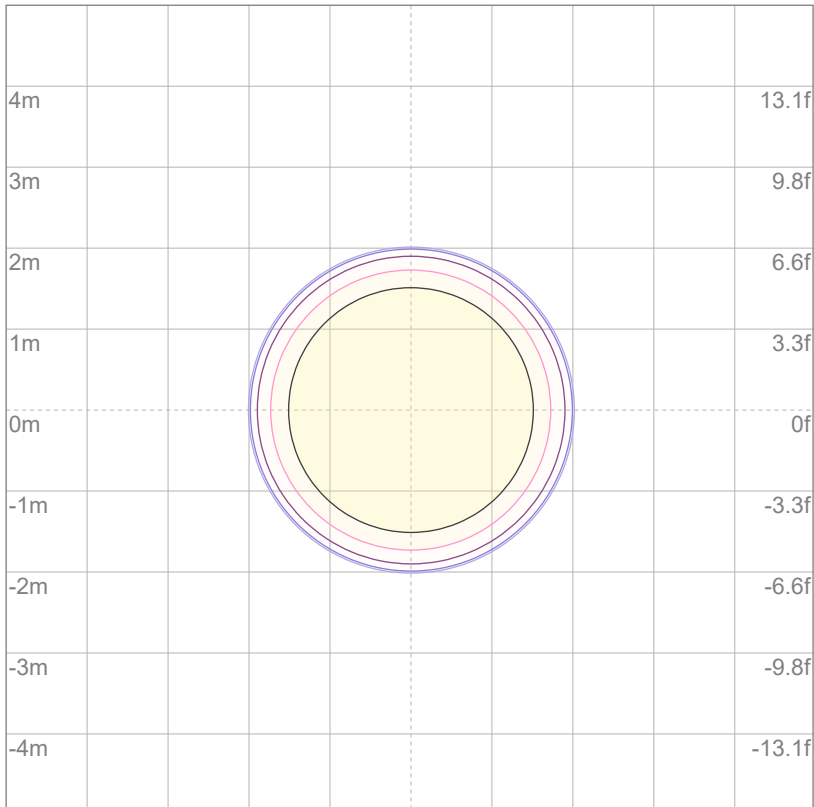


10%	73916 cd
20%	147831 cd
30%	221747 cd
40%	295662 cd
50%	369578 cd
60%	443494 cd
70%	517409 cd
80%	591325 cd
90%	665241 cd

Conditions:

Number of c-planes: 2
Candela at center: 739156 cd

ISO Lux Diagram



3%	222 lx
5%	370 lx
10%	739 lx
30%	2217 lx
50%	3696 lx

Conditions:

Number of c-planes: 2
Lux at center: 7392 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 18379 lm

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2.5%
16.9°	22.5°	24.4°

Color Temperature: 2772 K

CRI: 61.8

TLCI: 30

TM30: 64.7

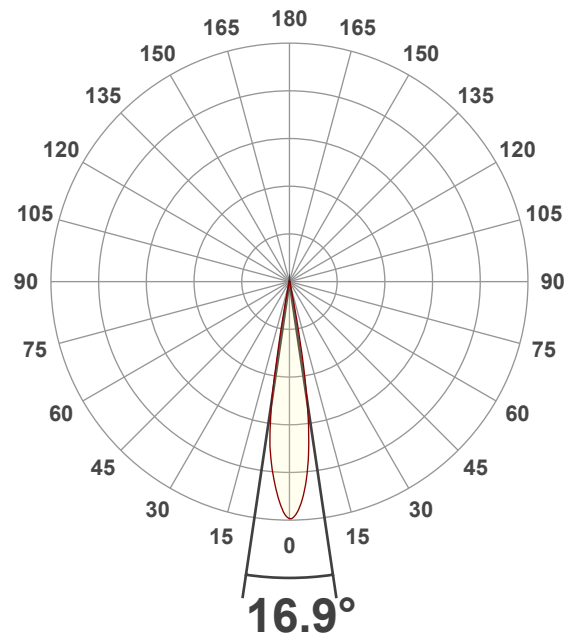
CQS: 61.8

Voltage: 117 V, Current: 13.8 A

Power: 1612 W

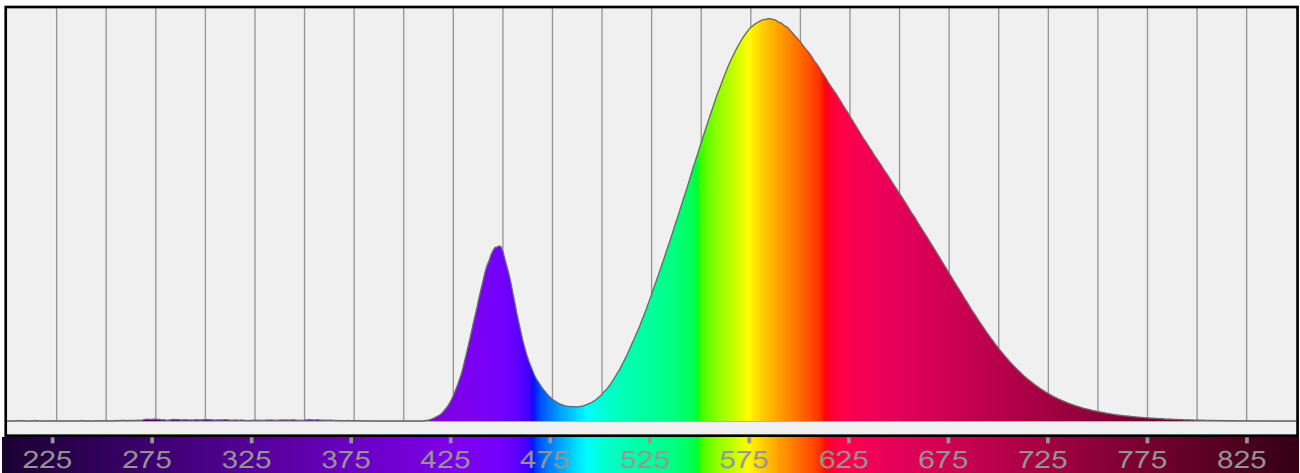
Efficacy: 11 Lumen/Watt

Measurement Date: 8/25/2022



Spectral Distribution

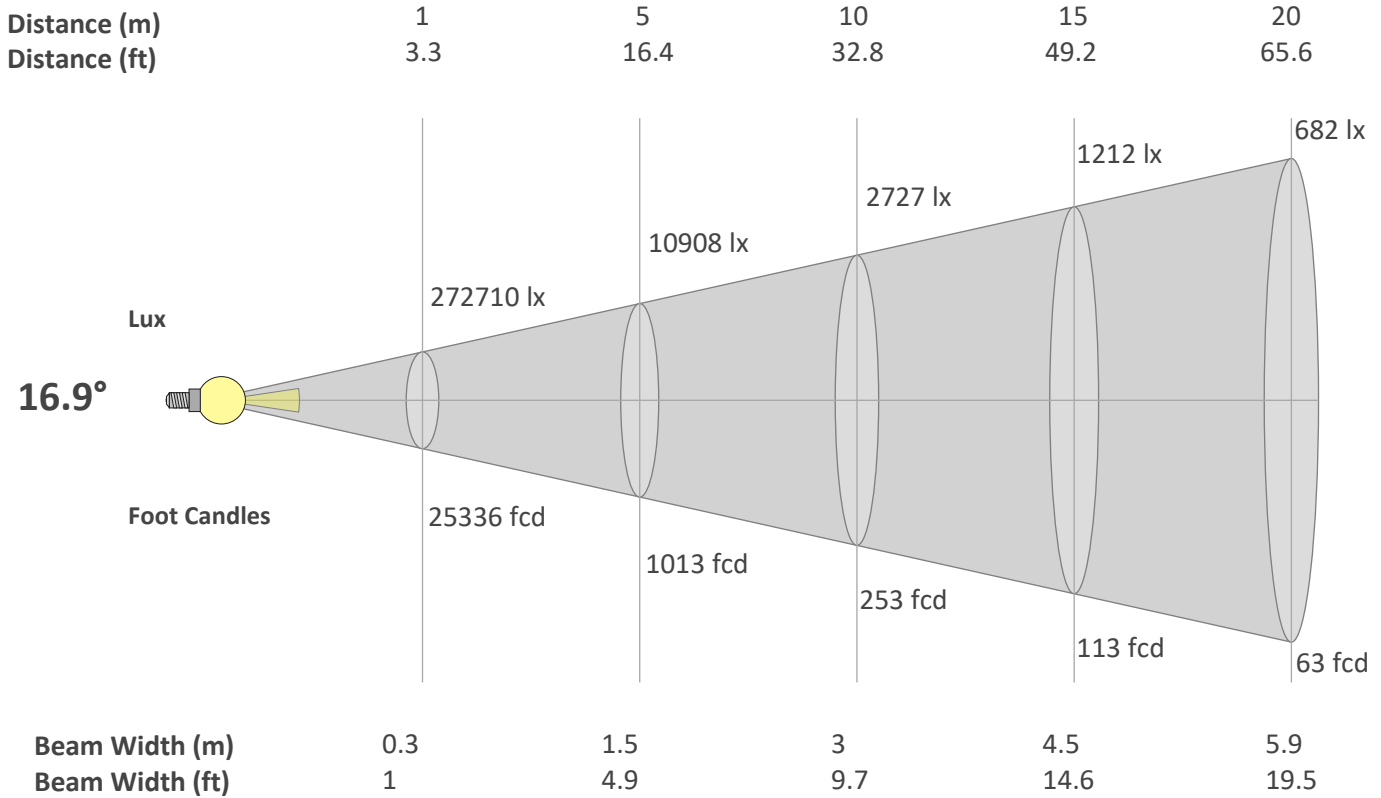
Dominant Wavelength 584 nm



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

Beam Details

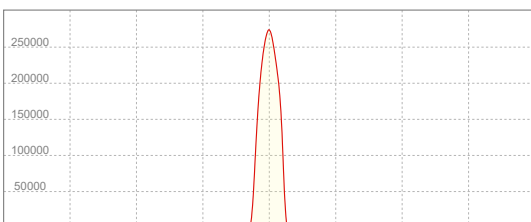
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%
16.9°	22.5°	24.4°



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	272710	68177	30301	17044	10908	7575	5566	4261	3367	2727	2254	1894	1614	1391	1212	1065	944	842	755	682
FC	25335.5	6333.9	2815.1	1583.5	1013.4	703.8	517.1	395.9	312.8	253.4	209.4	175.9	149.9	129.3	112.6	99	87.7	78.2	70.2	63.3

Linear Distribution



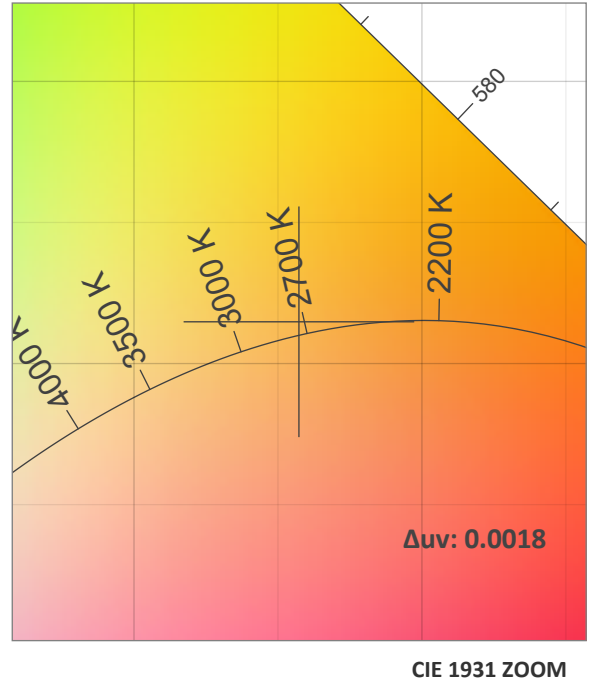
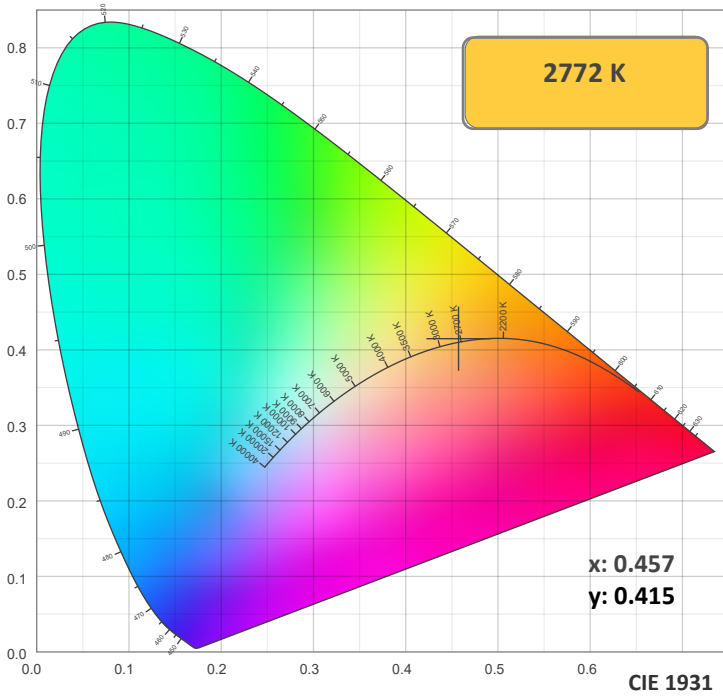
Peak Candela
273950 cd

Calculate Center Beam Intensities

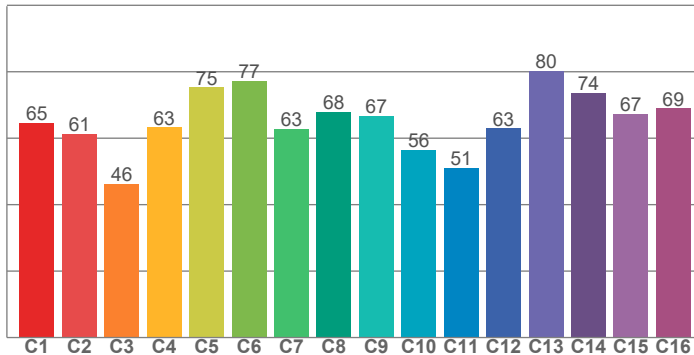
$lux = 273950 / distance(m)^2$

$fc = 273950 / distance(ft)^2$

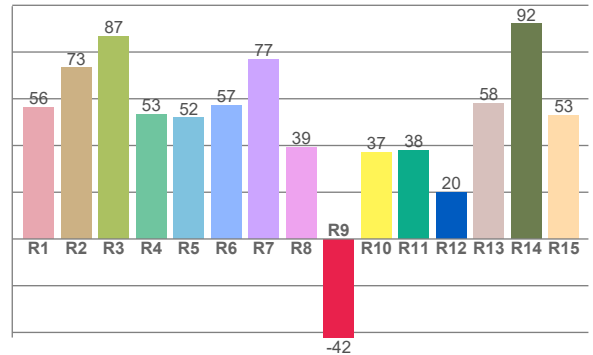
Color Details



TM30: 64.7



CRI: 61.8 (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
56.2	73.2	86.7	53.5	51.8	57.0	76.7	39.1	-42.2	37.1	38.1	20.1	58.1	92.0	52.8

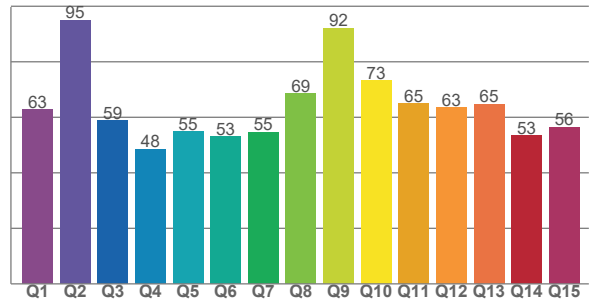
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
64.7	61.3	46.3	63.2	75.3	77.2	62.9	67.9	66.8	56.5	51.1	62.9	80.3	73.7	67.2	69.0

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
62.7	95.0	58.8	48.5	54.9	53.1	54.6	68.6	92.1	73.2	65.0	63.4	64.8	53.3	56.4

CQS: 61.8



Color Parameters

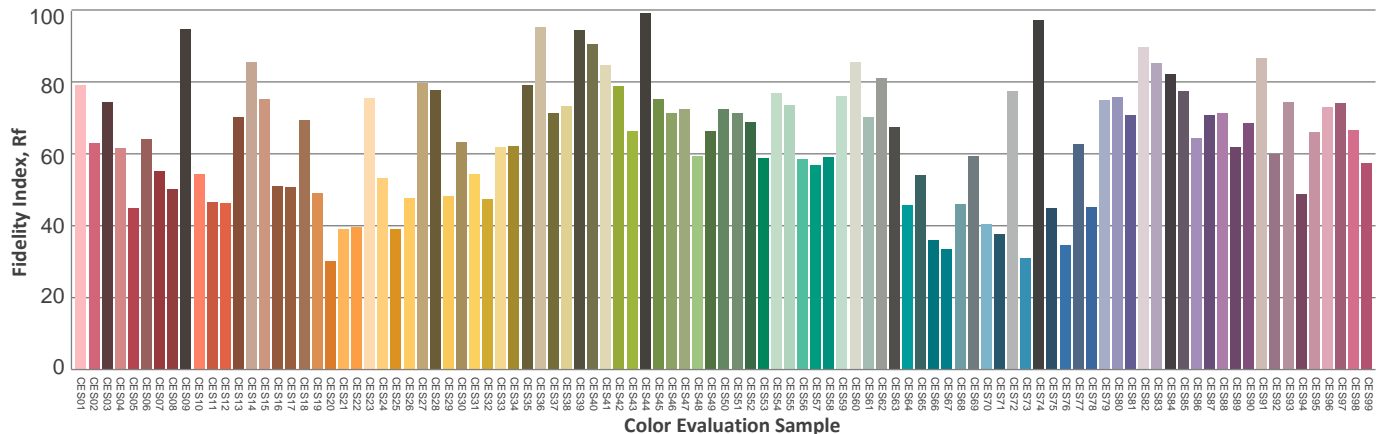
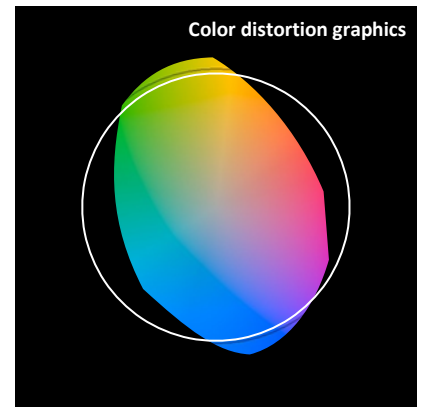
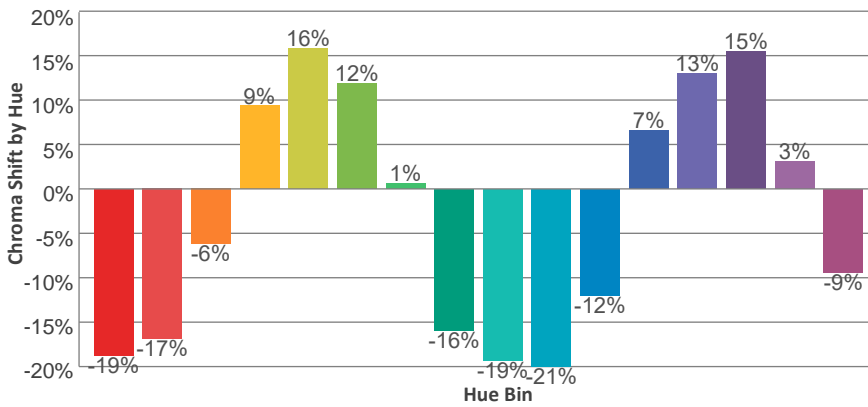
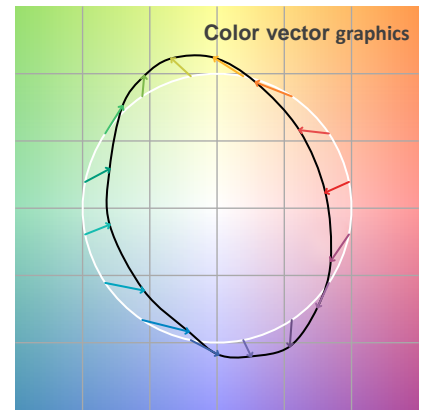
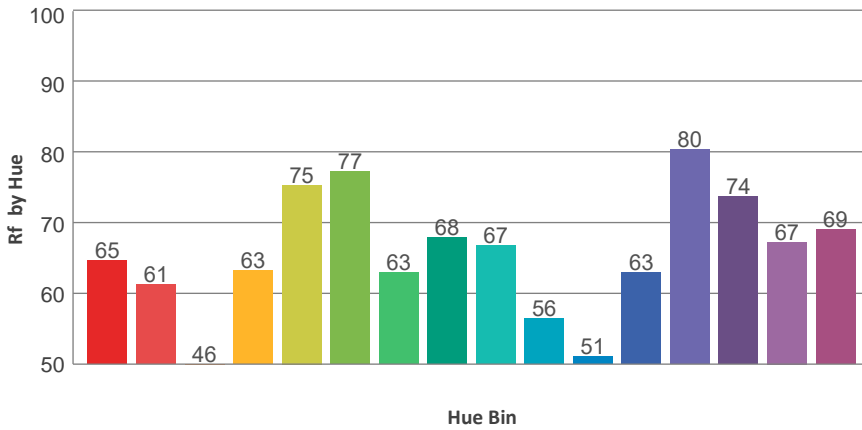
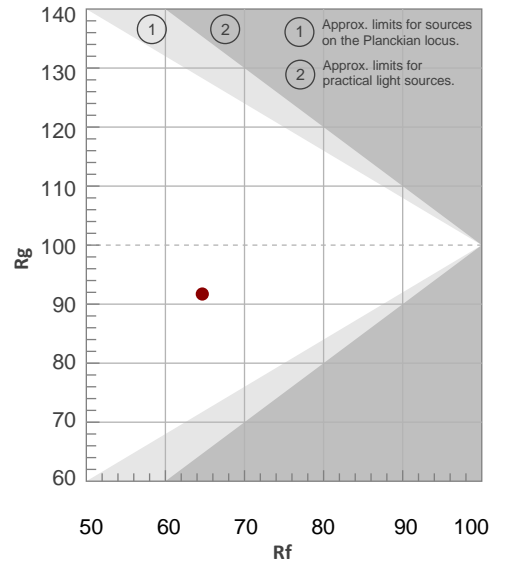
Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Diviation from Black
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2772 K	61.8	-42.2	64.7	91.7	61.8	0.457	0.415	0.259	0.352	0.0018

TM30 Details

Rf 64.7
Fidelity Index Rf

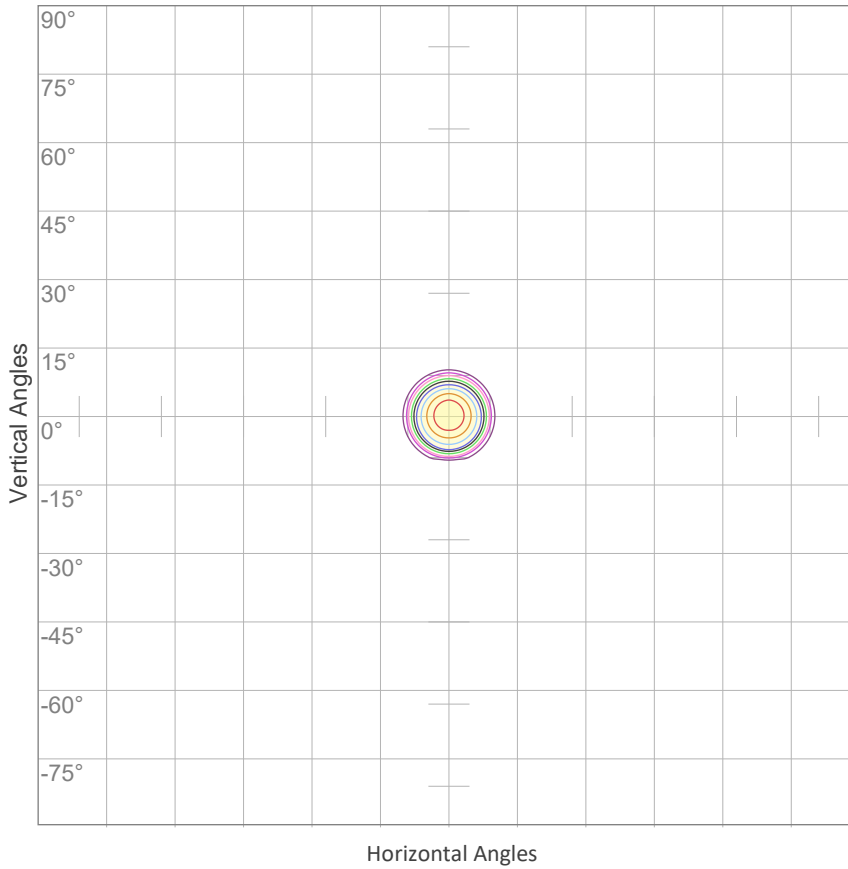
Rg 91.7
Gamut Index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	65	-19%	-4%
2	61	-17%	14%
3	46	-6%	28%
4	63	9%	24%
5	75	16%	12%
6	77	12%	-10%
7	63	1%	-24%
8	68	-16%	-13%
9	67	-19%	-4%
10	56	-21%	21%
11	51	-12%	34%
12	63	7%	22%
13	80	13%	3%
14	74	15%	-12%
15	67	3%	-20%
16	69	-9%	-22%



ISO Diagrams

ISO Candela Diagram



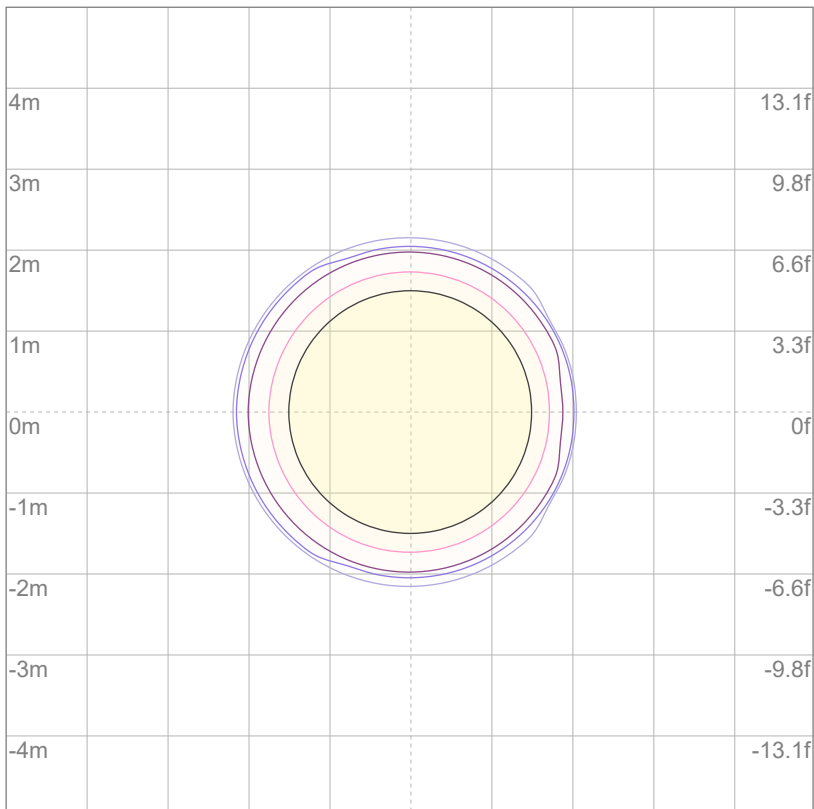
10%	27271 cd
20%	54542 cd
30%	81813 cd
40%	109084 cd
50%	136355 cd
60%	163626 cd
70%	190897 cd
80%	218168 cd
90%	245439 cd

Conditions:

Number of c-planes: 2

Candela at center: 272710 cd

ISO Lux Diagram



3%	81.8 lx
5%	136 lx
10%	273 lx
30%	818 lx
50%	1364 lx

Conditions:

Number of c-planes: 2

Lux at center: 2727 lx

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

Mounting Height: 10 meters (33 feet)