FUZE PENDANT™

Photometric Test Report
45° Lens
89° Field Angle

Elation Professional USA | 6122 S. Eastern Ave. **|** Los Angeles, CA. 90040
323-582-3322 **|** 323-832-9142 fax **|** www.elationlighting.com **|** info@elationlighting.com

Elation Professional B.V. | Junostraat 2 **|** 6468 EW Kerkrade, The Netherlands
+31 45 546 85 66 **|** +31 45 546 85 96 fax **|** www.elationlighting.eu **|** info@elationlighting.eu

Elation Professional Mexico | AV Santa Ana 30 | Parque Industrial Lerma, Lerma, Mexico 52000
+52 (728) 282-7070

C O N T E N T S

TESTING PROCESS

Introduction

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 C700

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 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.

Fuze Pendant (Full On, 45° Lens)

Prepared For ELATION PROFESSIONAL

Total Lumen Output: 11079 lm

Color Temperature: 6317 K

CRI: 69.5

TLCI: 77

TM30: 73.6

CQS: 83.8

Measurement Date: 2/18/2020

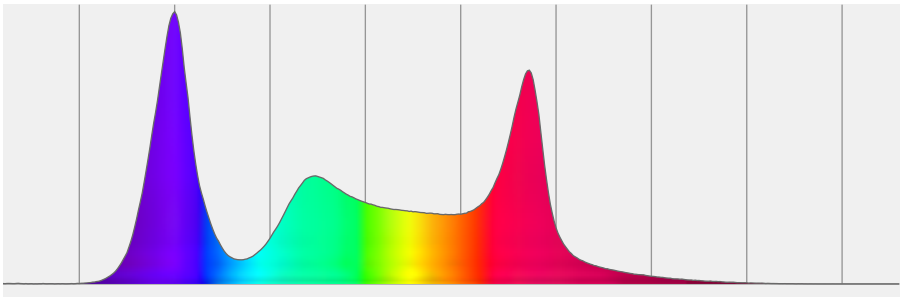
Voltage: 117 V, Current: 2.23 A

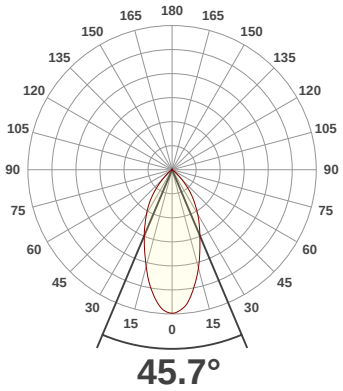
Power: 258.3 W

Efficacy: 43 Lumen/Watt

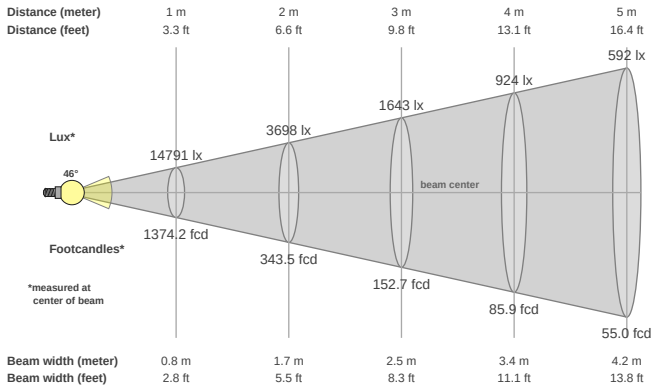
Spectral distribution

Dominant Wavelength 360





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.7°	89.5°	104.6°

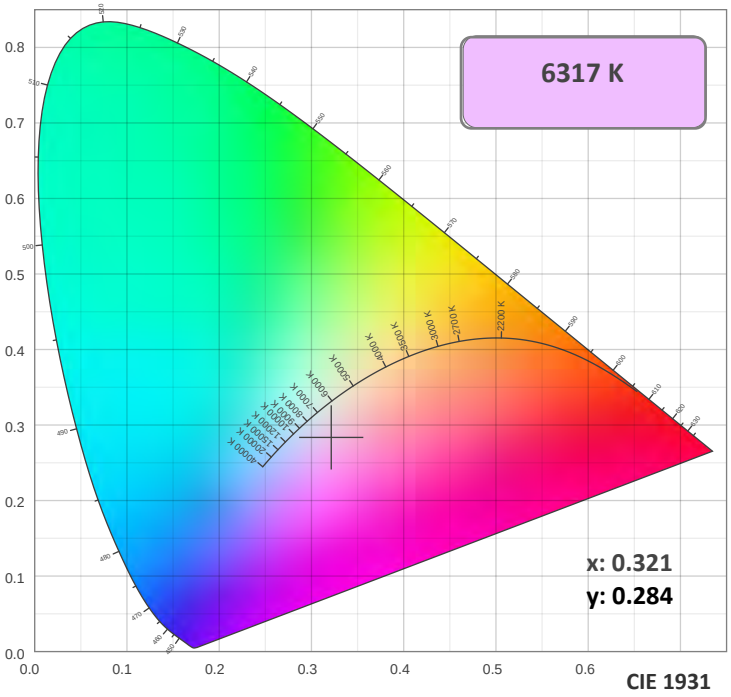
Beam intensities

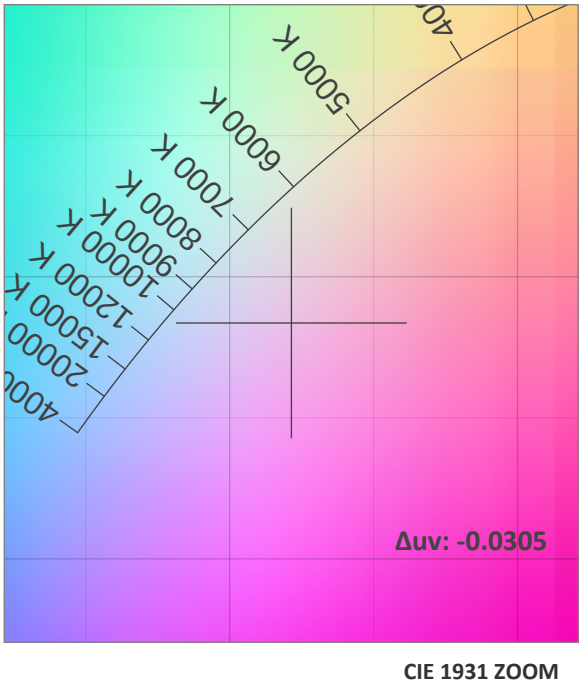
Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
14810 cd	99.8%	94.6%

Beam Intensities from 1-20m

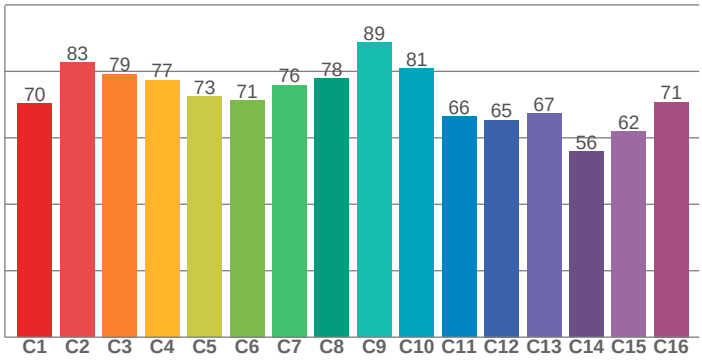
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
LX	14791	3698	1643	924	592	411	302	231	183	148	122	103	88	75	66	58	51	46	41	37
FC	1374.2	343.5	152.7	85.9	55	38.2	28	21.5	17	13.7	11.4	9.5	8.1	7	6.1	5.4	4.8	4.2	3.8	3.4

Color Details

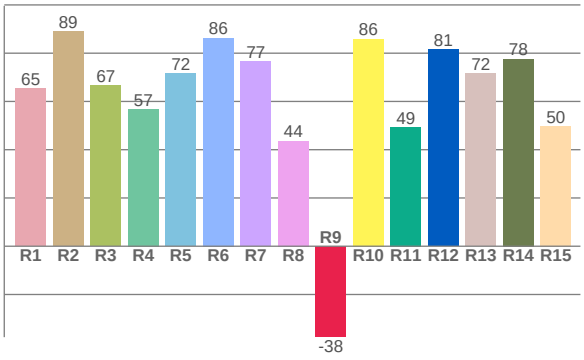




TM30: 73.6



CRI: 69.5 (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
65.3	89.0	66.6	56.9	71.5	86.3	76.6	43.7	-37.7	85.9	49.4	81.5	71.6	77.7	49.8

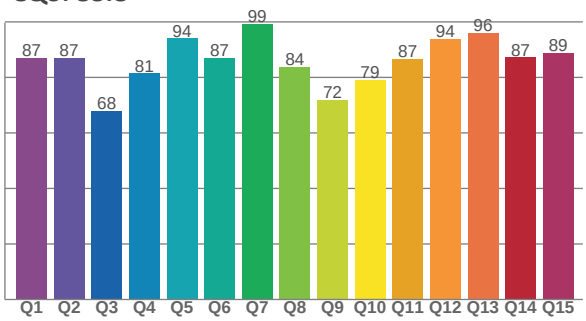
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
70.4	82.6	79.3	77.4	72.5	71.3	76.0	77.9	88.6	80.9	66.4	65.3	67.4	55.8	62.0	70.8

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.2	87.1	67.9	81.4	94.0	87.1	99.2	83.9	71.7	79.2	86.7	93.8	96.0	87.2	88.8

CQS: 83.8



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
6317 K	69.5	-37.7	73.6	120.4	83.8	0.321	0.284	0.223	0.295	-0.0305

Prepared For ELATION PROFESSIONAL

TM30 Details

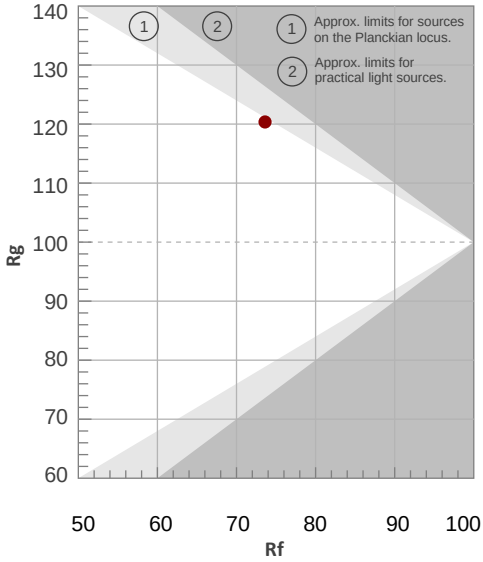
Rf 73.6

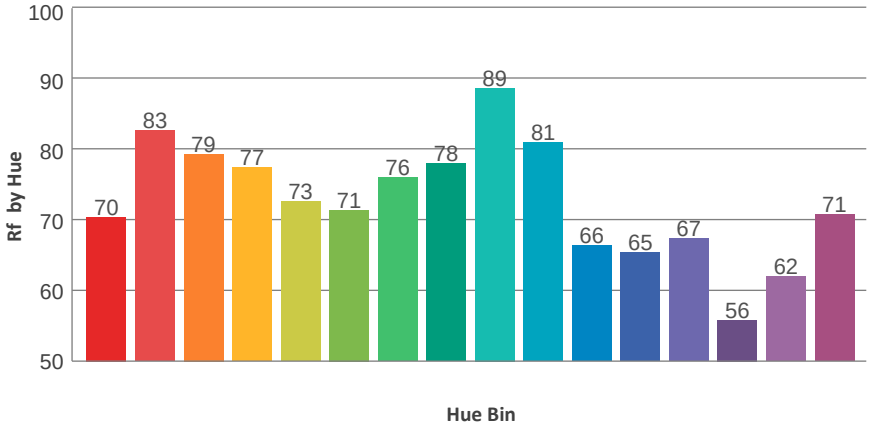
Fidelity Index Rf

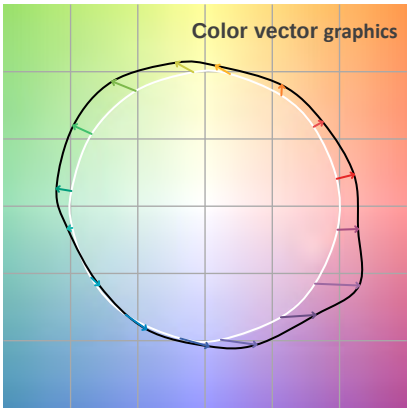
Rg 120.4

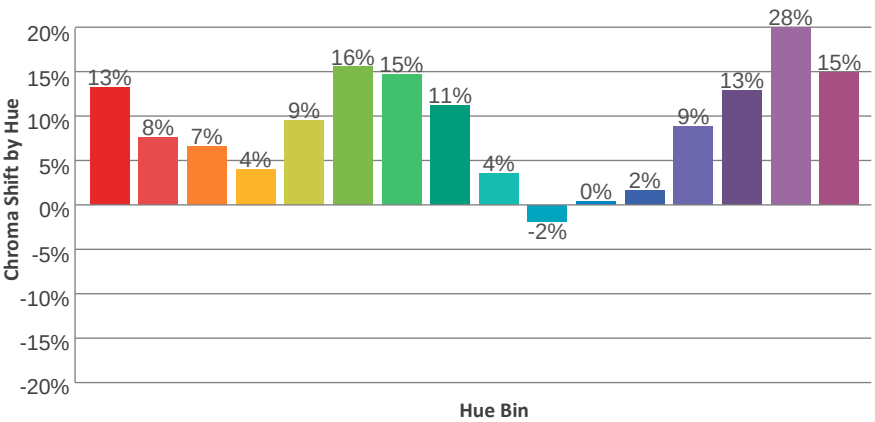
Gamut Index Rg

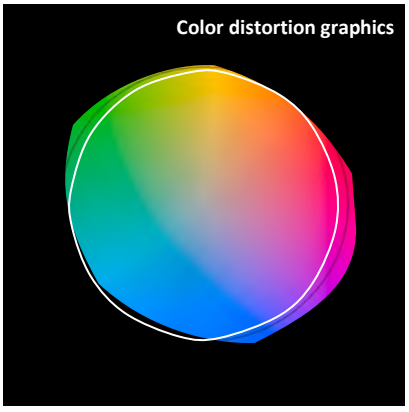
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	70	13%	1%
2	83	8%	-1%
3	79	7%	4%
4	77	4%	12%
5	73	9%	11%
6	71	16%	11%
7	76	15%	2%
8	78	11%	0%
9	89	4%	0%
10	81	-2%	8%
11	66	0%	19%
12	65	2%	22%
13	67	9%	25%
14	56	13%	22%
15	62	28%	17%
16	71	15%	4%

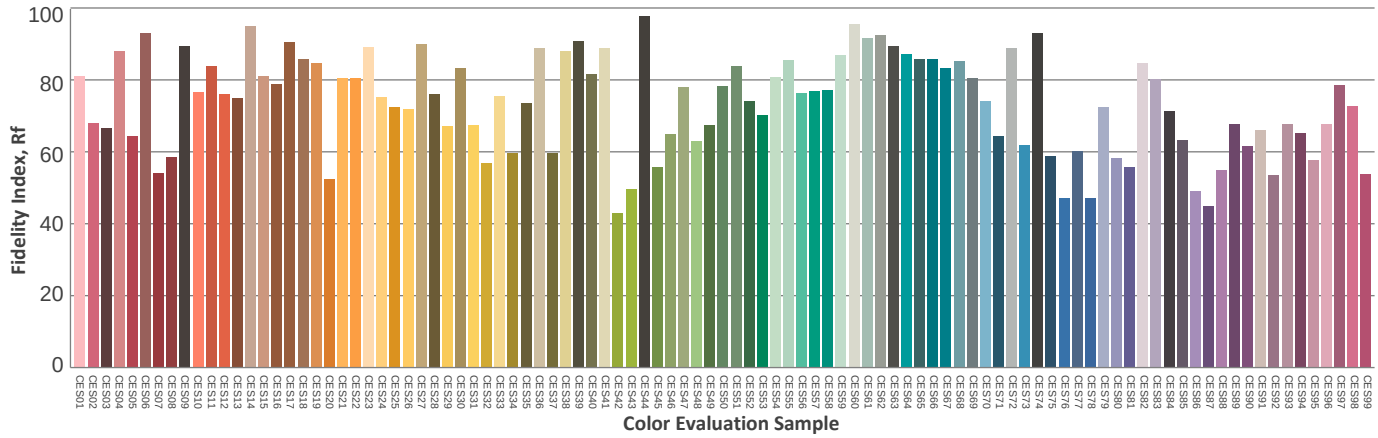












Fuze Pendant (2700K, 45° Lens)

Prepared For ELATION PROFESSIONAL

Total Lumen Output: 6740 lm

Color Temperature: 2639 K

CRI: 89.0

TLCI: 81

TM30: 87.9

CQS: 89.3

Measurement Date: 2/18/2020

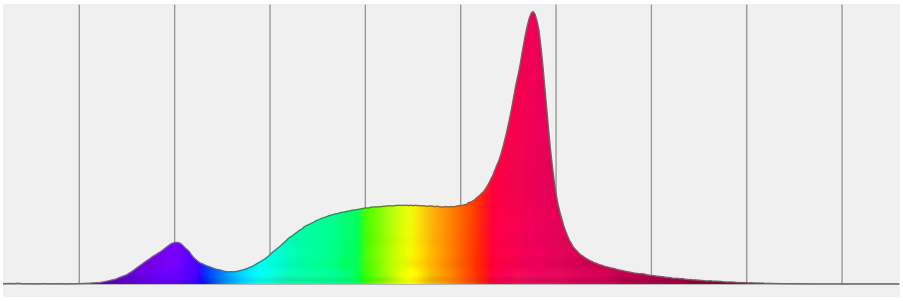
Voltage: 118 V, Current: 1.14 A

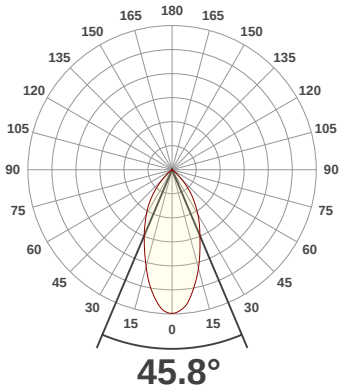
Power: 130.4 W

Efficacy: 52 Lumen/Watt

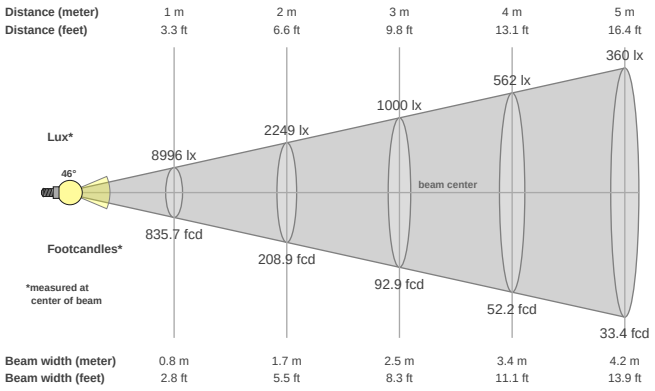
Spectral distribution

Dominant Wavelength 585





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.8°	89.6°	104.3°

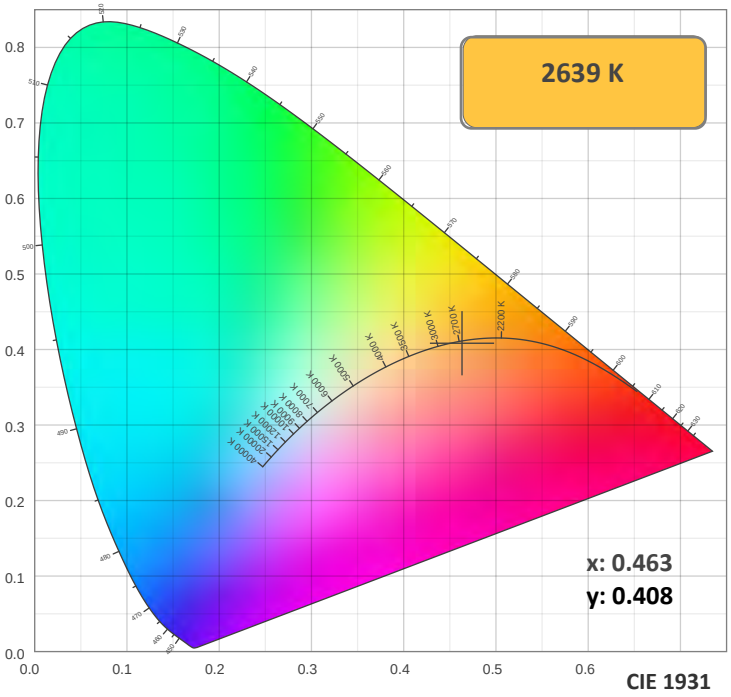
Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
8996 cd	99.9%	94.8%

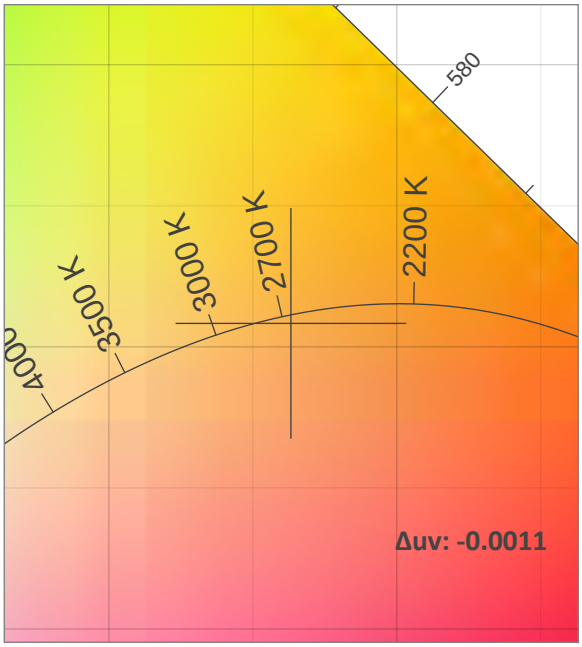
Beam Intensities from 1-20m

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	8996	2249	1000	562	360	250	184	141	111	90	74	62	53	46	40	35	31	28	25	22
FC	835.7	208.9	92.9	52.2	33.4	23.2	17.1	13.1	10.3	8.4	6.9	5.8	4.9	4.3	3.7	3.3	2.9	2.6	2.3	2.1

Color Details

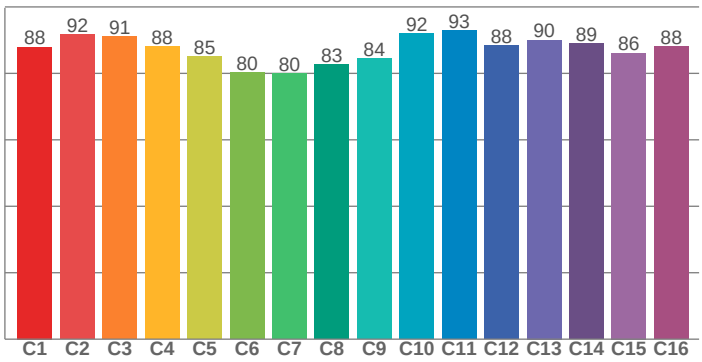


CIE 1931

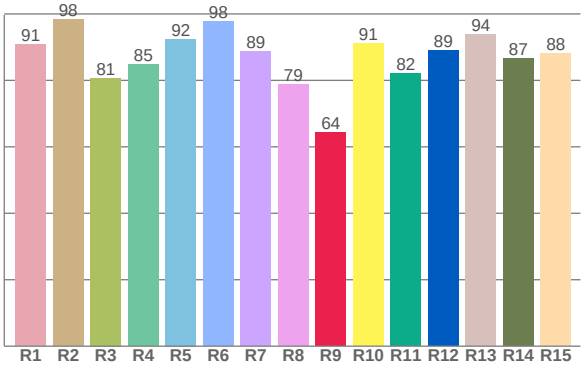


CIE 1931 ZOOM

TM30: 87.9



CRI: 89.0 (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
90.8	98.3	80.7	84.8	92.5	97.7	88.7	78.7	64.3	91.0	82.0	89.0	93.8	86.7	88.1

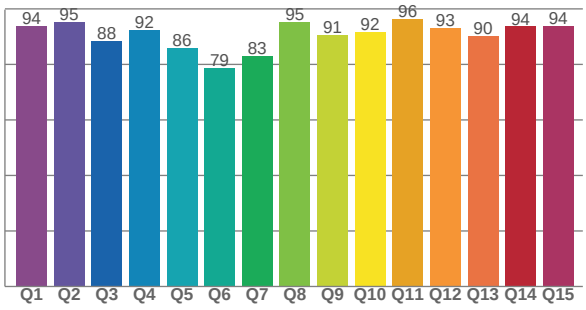
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
87.9	91.6	91.2	88.0	85.1	80.4	79.9	82.7	84.4	92.0	92.8	88.4	90.1	89.0	86.2	88.1

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
93.9	95.2	88.3	92.3	86.0	78.6	83.0	95.3	90.6	91.8	96.4	93.2	90.3	93.7	93.7

CQS: 89.3



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
2639 K	89.0	64.3	87.9	109.6	89.3	0.463	0.408	0.266	0.351	-0.0011

TM30 Details

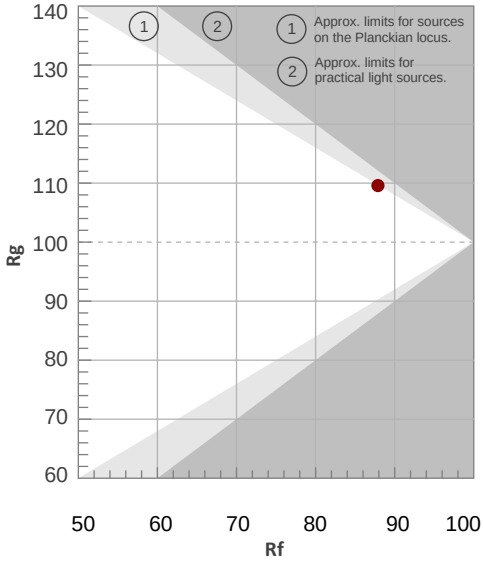
Rf 87.9

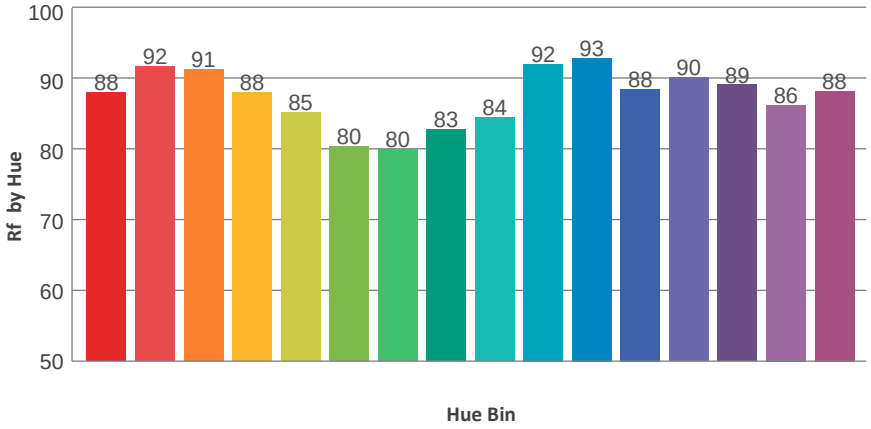
Fidelity Index Rf

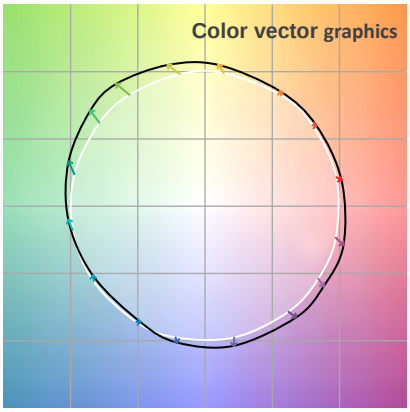
Rg 109.6

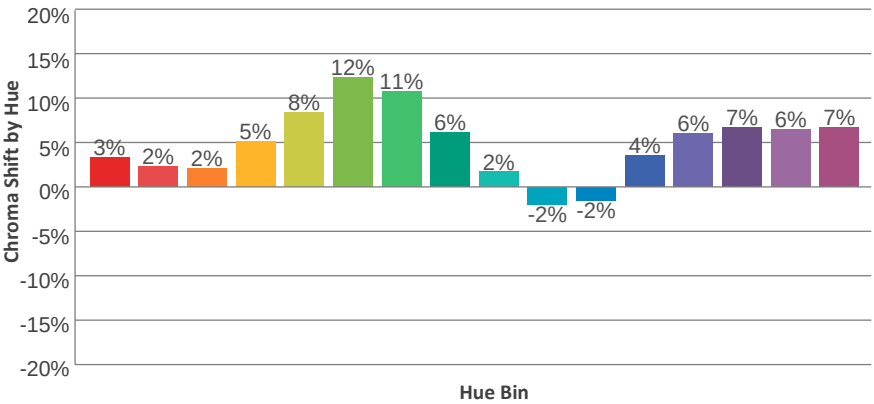
Gamut Index Rg

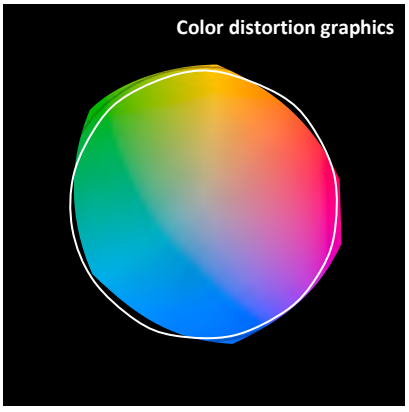
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	88	3%	-3%
2	92	2%	-2%
3	91	2%	3%
4	88	5%	5%
5	85	8%	8%
6	80	12%	4%
7	80	11%	-4%
8	83	6%	-8%
9	84	2%	-8%
10	92	-2%	-4%
11	93	-2%	3%
12	88	4%	2%
13	90	6%	-2%
14	89	7%	2%
15	86	6%	-2%
16	88	7%	-4%

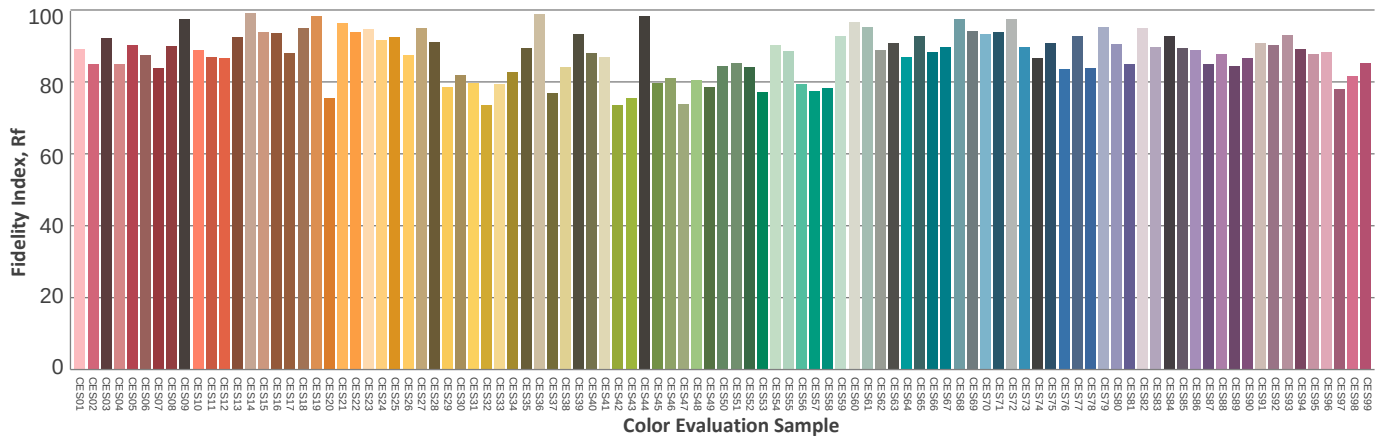












Fuze Pendant (3200K, 45° Lens)

Prepared For ELATION PROFESSIONAL

Total Lumen Output: 9018 lm

Color Temperature: 3234 K

CRI: 88.8

TLCI: 83

TM30: 87.7

CQS: 90.6

Measurement Date: 2/20/2020

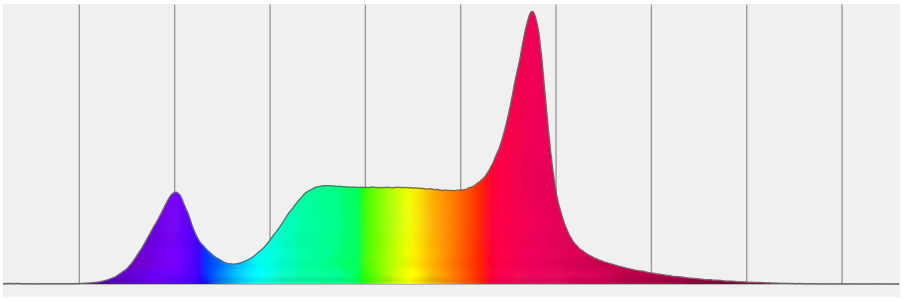
Voltage: 109 V, Current: 1.77 A

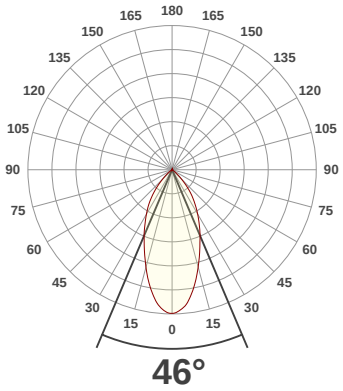
Power: 189.1 W

Efficacy: 48 Lumen/Watt

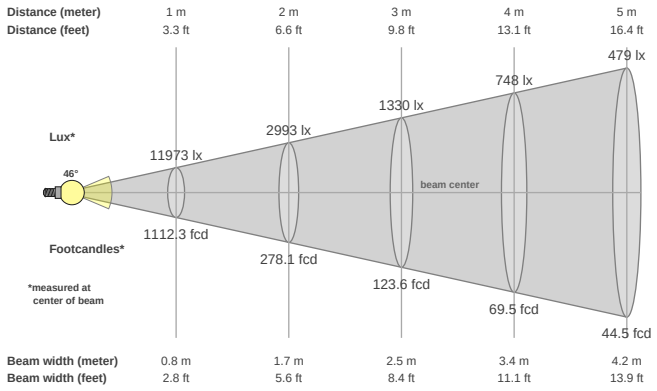
Spectral distribution

Dominant Wavelength 584





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
46°	89.7°	104.8°

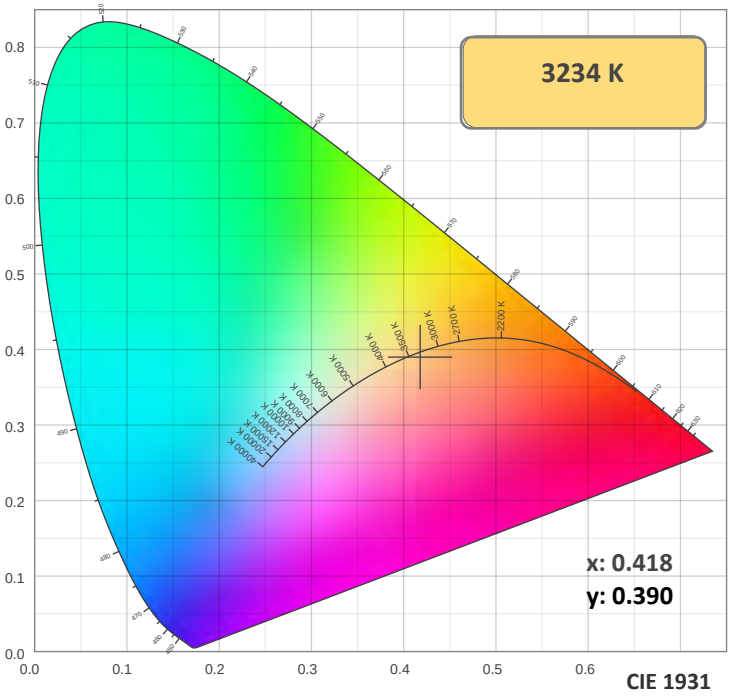
Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
11974 cd	99.6%	94.3%

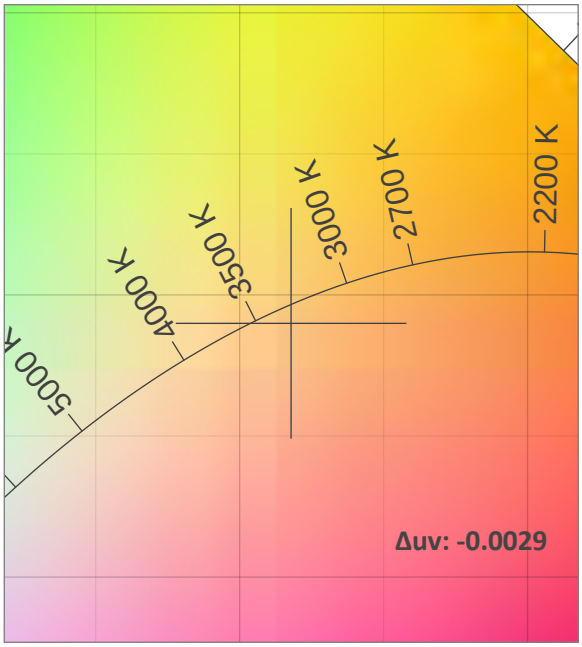
Beam Intensities from 1-20m

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	11973	2993	1330	748	479	333	244	187	148	120	99	83	71	61	53	47	41	37	33	30
FC	1112.3	278.1	123.6	69.5	44.5	30.9	22.7	17.4	13.7	11.1	9.2	7.7	6.6	5.7	4.9	4.3	3.8	3.4	3.1	2.8

Color Details

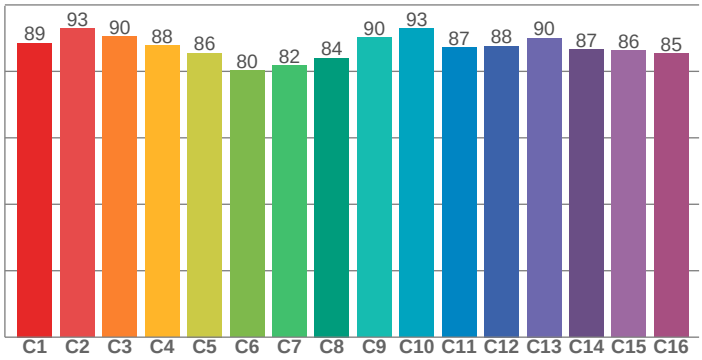


CIE 1931

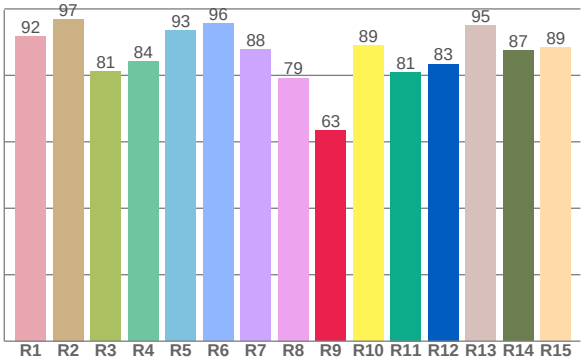


CIE 1931 ZOOM

TM30: 87.7



CRI: 88.8 (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
91.8	96.9	81.2	84.1	93.5	95.5	87.9	79.3	63.4	89.1	81.0	83.5	95.1	87.4	88.6

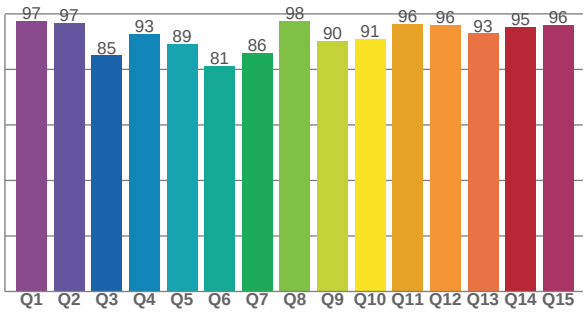
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
88.6	93.0	90.4	87.8	85.5	80.3	81.7	84.0	90.3	92.9	87.2	87.6	90.1	86.5	86.3	85.4

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
97.5	96.8	85.1	92.7	89.3	81.3	85.8	97.5	90.2	91.1	96.4	96.1	93.0	95.3	96.1

CQS: 90.6



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
3234 K	88.8	63.4	87.7	109.8	90.6	0.418	0.390	0.244	0.342	-0.0029

TM30 Details

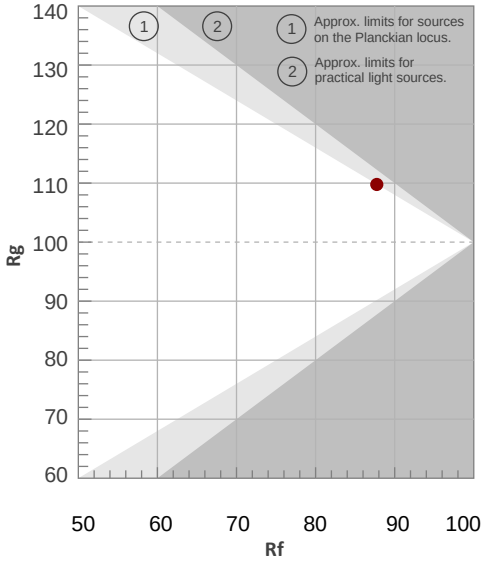
Rf 87.7

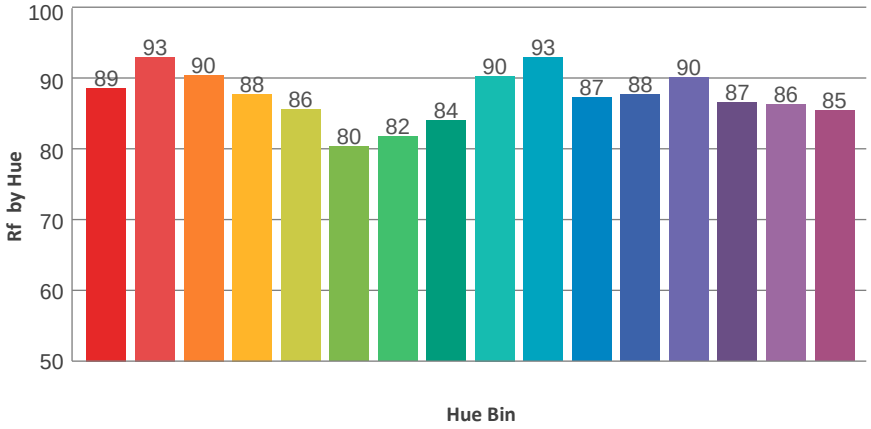
Fidelity Index Rf

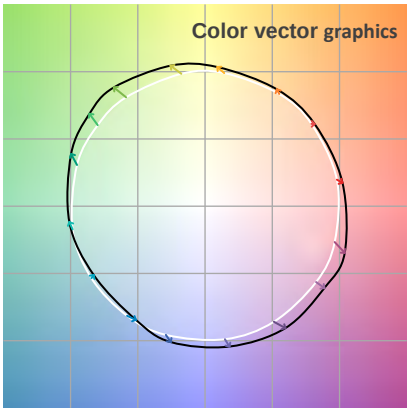
Rg 109.8

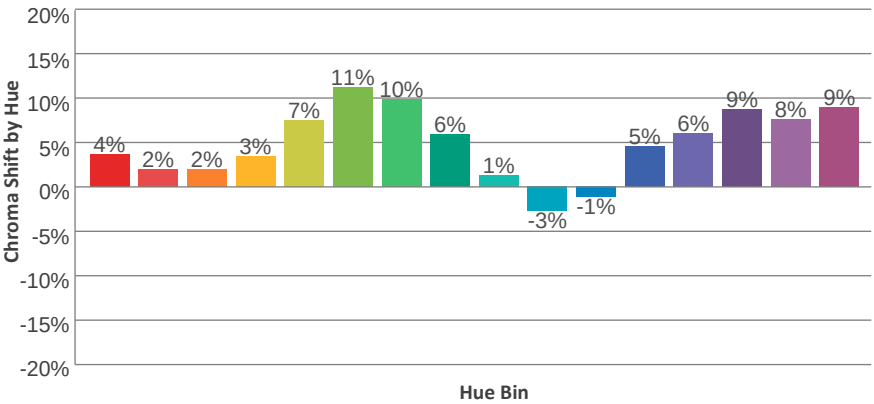
Gamut Index Rg

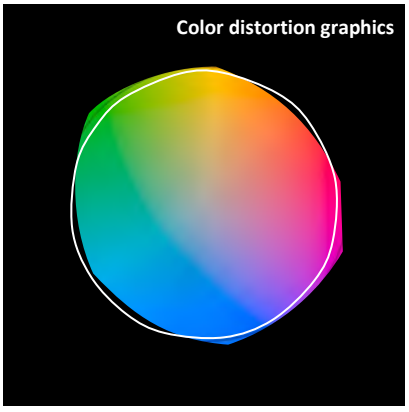
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	89	4%	-3%
2	93	2%	-1%
3	90	2%	3%
4	88	3%	6%
5	86	7%	7%
6	80	11%	4%
7	82	10%	-4%
8	84	6%	-7%
9	90	1%	-6%
10	93	-3%	-1%
11	87	-1%	7%
12	88	5%	5%
13	90	6%	2%
14	87	9%	5%
15	86	8%	0%
16	85	9%	-6%

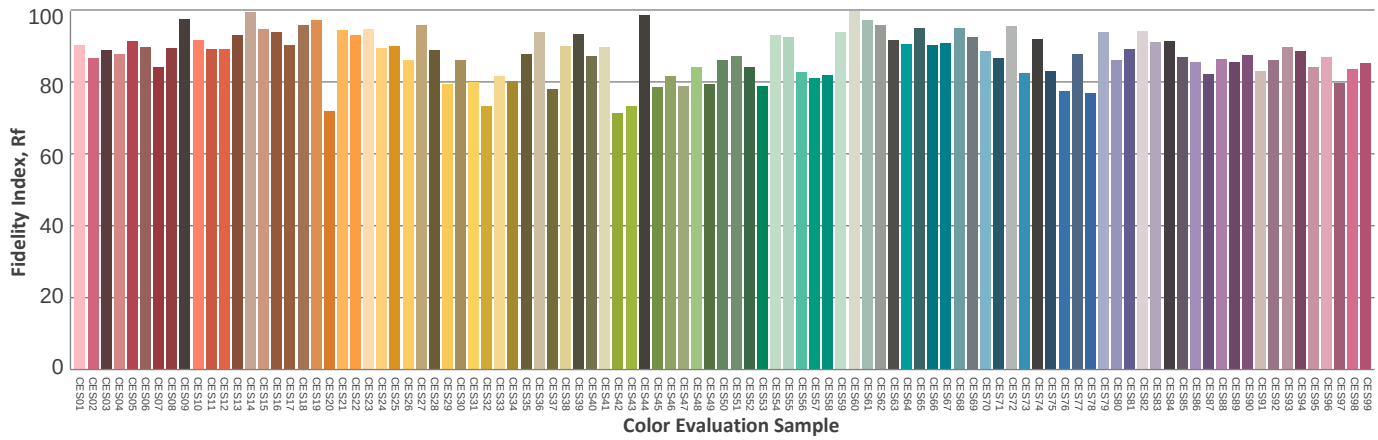












Fuze Pendant (4200K, 45° Lens)

Prepared For ELATION PROFESSIONAL

Total Lumen Output: 9512 lm

Color Temperature: 4277 K

CRI: 88.0

TLCI: 82

TM30: 86.4

CQS: 90.7

Measurement Date: 2/20/2020

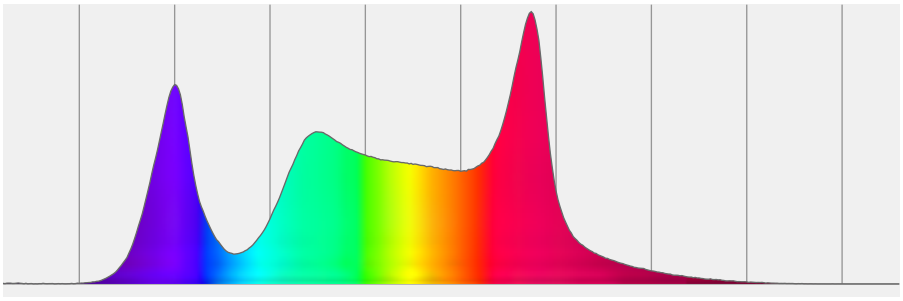
Voltage: 108 V, Current: 1.85 A

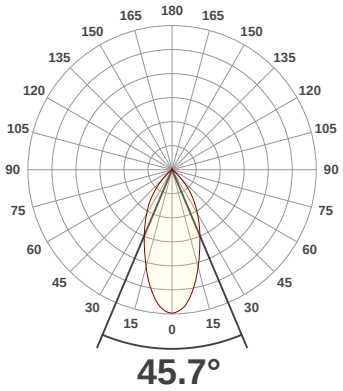
Power: 196.5 W

Efficacy: 48 Lumen/Watt

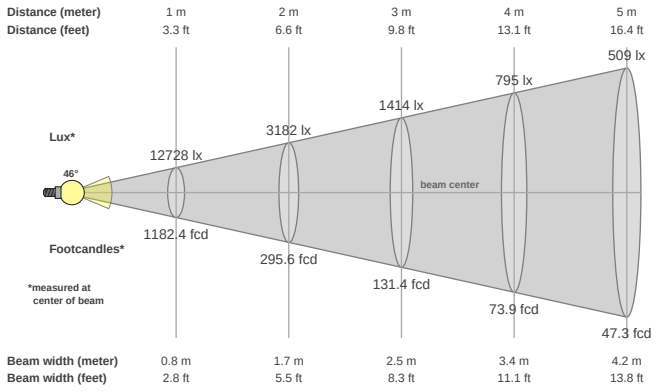
Spectral distribution

Dominant Wavelength 584





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.7°	89.4°	104.4°

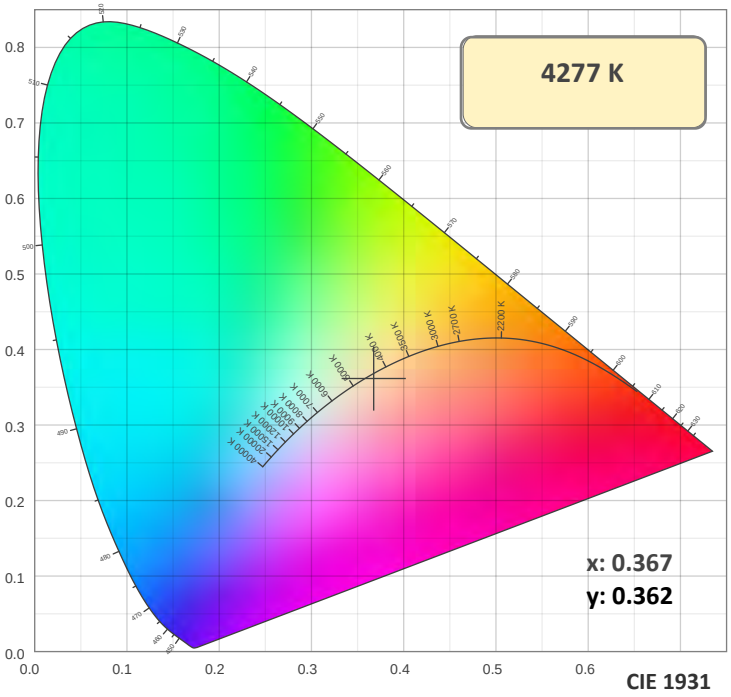
Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
12744 cd	99.8%	94.6%

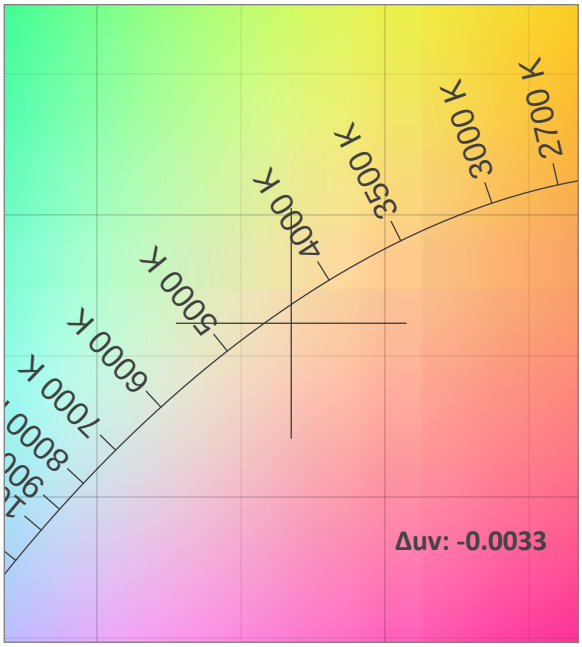
Beam Intensities from 1-20m

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	12728	3182	1414	795	509	354	260	199	157	127	105	88	75	65	57	50	44	39	35	32
FC	1182.4	295.6	131.4	73.9	47.3	32.8	24.1	18.5	14.6	11.8	9.8	8.2	7	6	5.3	4.6	4.1	3.6	3.3	3

Color Details

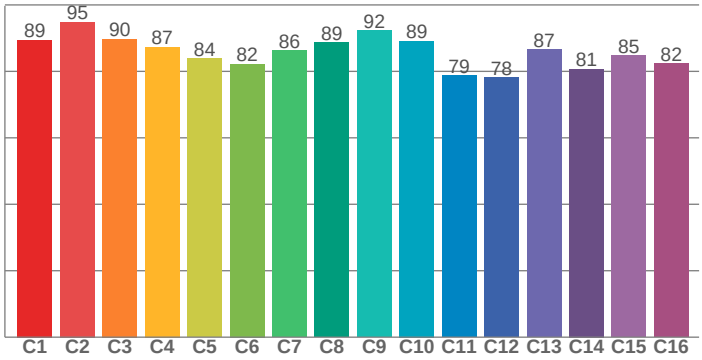


CIE 1931

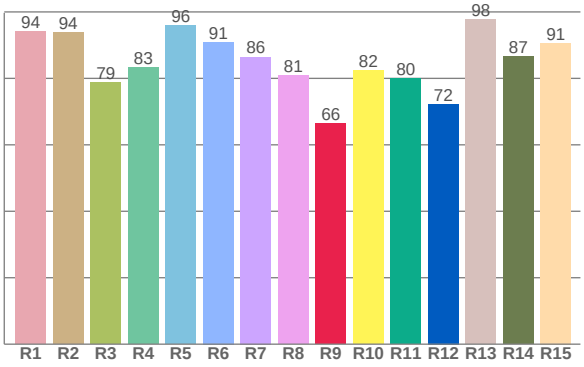


CIE 1931 ZOOM

TM30: 86.4



CRI: 88.0 (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
94.2	93.9	78.8	83.2	95.9	90.9	86.5	80.9	66.4	82.4	80.0	72.3	97.7	86.6	90.6

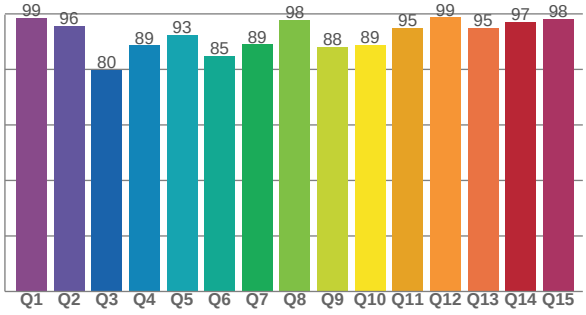
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89.4	94.8	89.7	87.3	84.0	82.2	86.3	88.8	92.4	89.2	78.7	78.2	86.5	80.7	84.8	82.3

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98.6	95.5	79.8	88.6	92.6	84.9	89.0	97.8	88.2	88.8	94.9	98.7	95.0	97.0	98.1

CQS: 90.7



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
4277 K	88.0	66.4	86.4	108.8	90.7	0.367	0.362	0.223	0.329	-0.0033

Prepared For ELATION PROFESSIONAL

TM30 Details

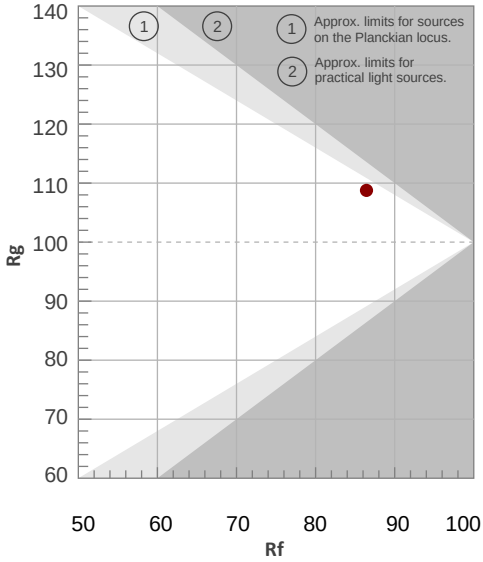
Rf 86.4

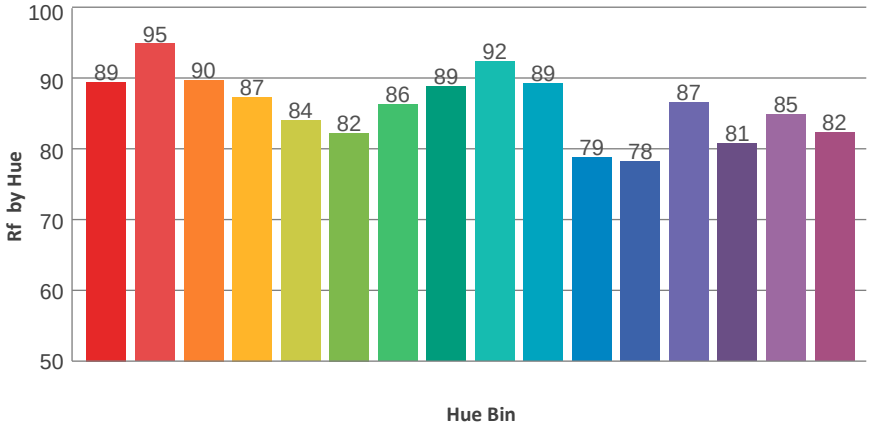
Fidelity Index Rf

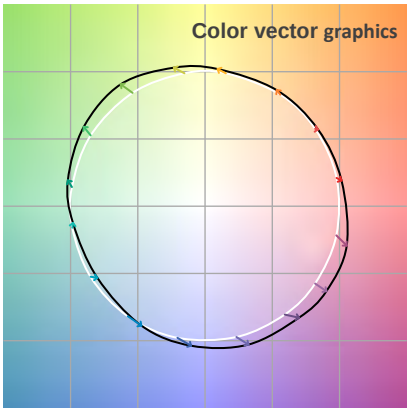
Rg 108.8

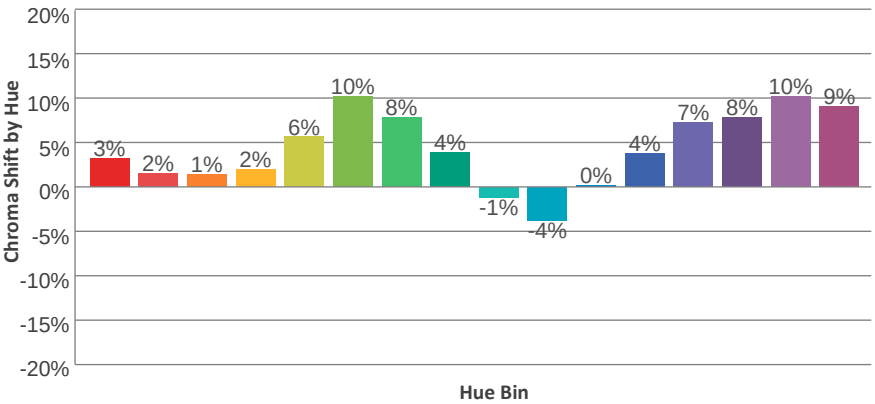
Gamut Index Rg

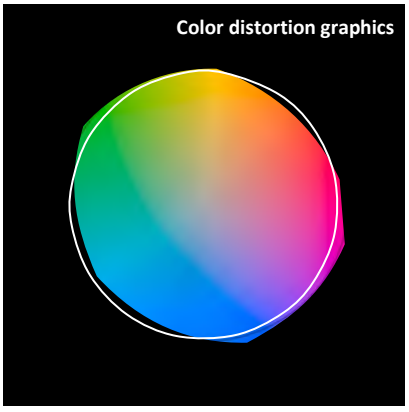
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	89	3%	-3%
2	95	2%	-2%
3	90	1%	4%
4	87	2%	7%
5	84	6%	7%
6	82	10%	4%
7	86	8%	-2%
8	89	4%	-4%
9	92	-1%	-3%
10	89	-4%	3%
11	79	0%	12%
12	78	4%	11%
13	87	7%	8%
14	81	8%	8%
15	85	10%	0%
16	82	9%	-6%

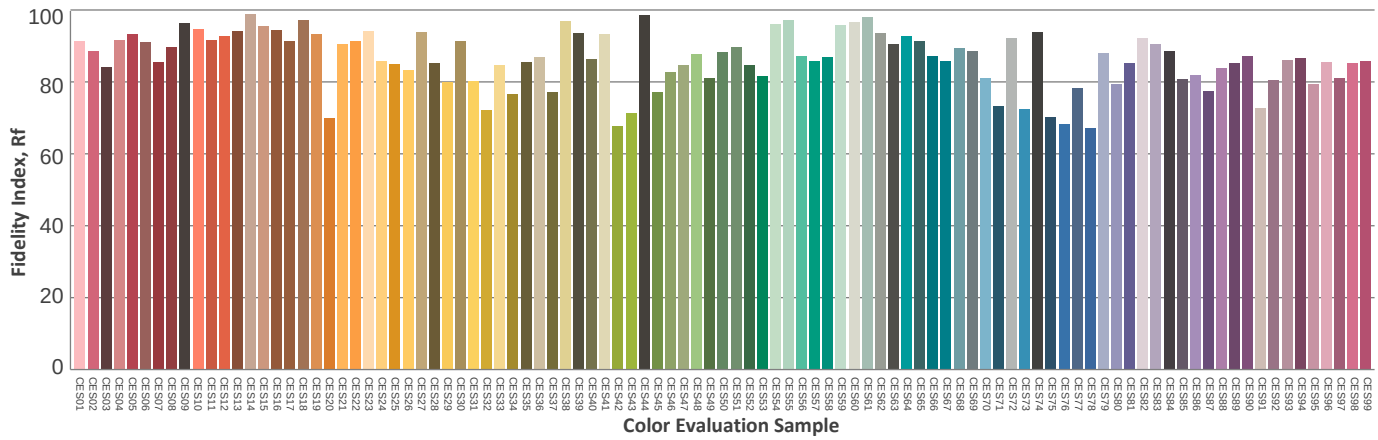












Fuze Pendant (4500K, 45° Lens)

Prepared For ELATION PROFESSIONAL

Total Lumen Output: 9676 lm

Color Temperature: 4544 K

CRI: 88.2

TLCI: 82

TM30: 86.5

CQS: 90.3

Measurement Date: 2/20/2020

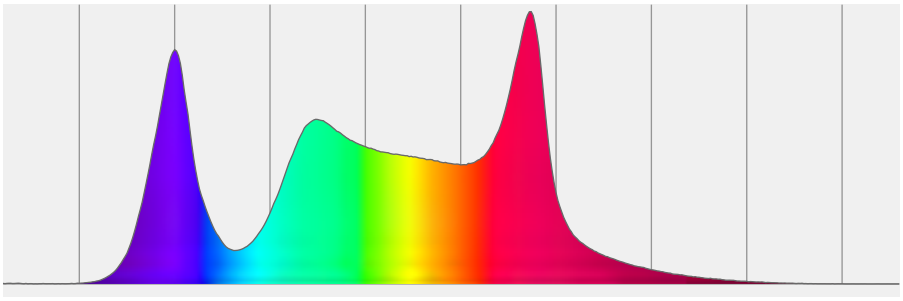
Voltage: 108 V, Current: 1.87 A

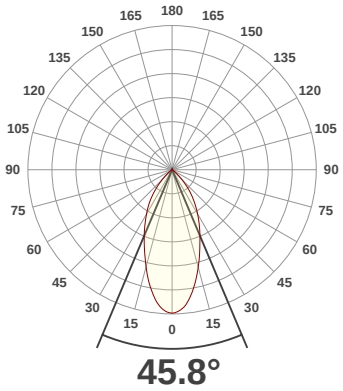
Power: 198.9 W

Efficacy: 49 Lumen/Watt

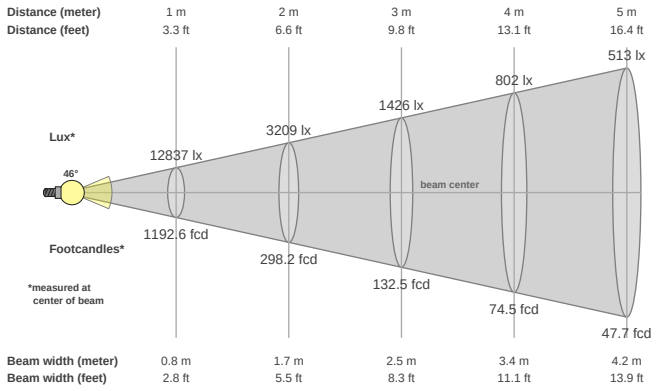
Spectral distribution

Dominant Wavelength 585





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.8°	89.6°	104.8°

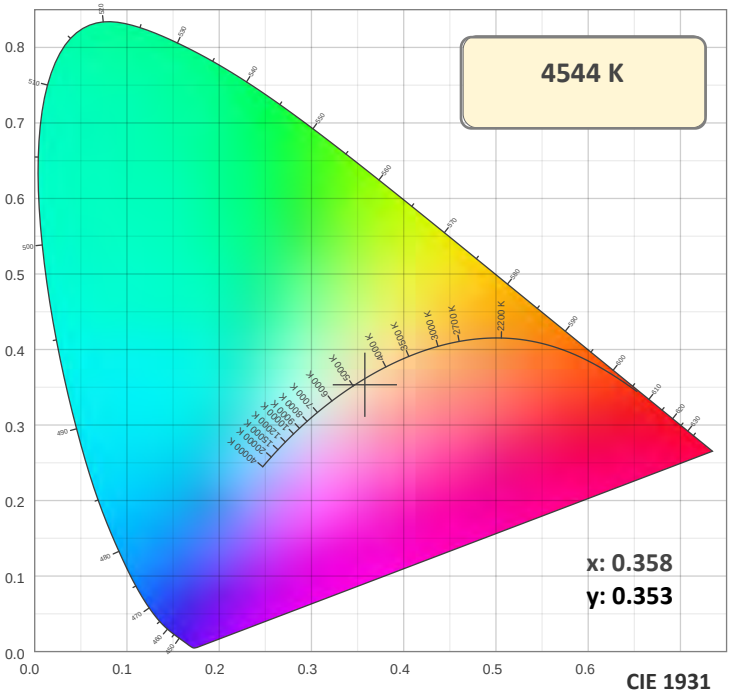
Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
12854 cd	99.4%	94.0%

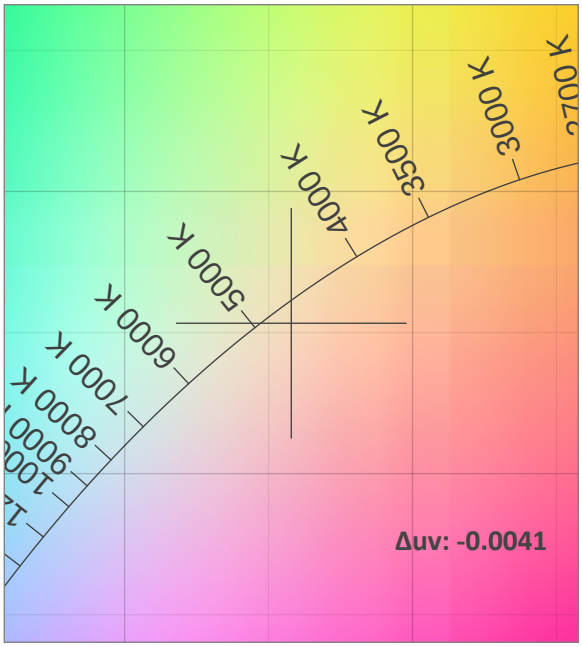
Beam Intensities from 1-20m

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	12837	3209	1426	802	513	357	262	201	158	128	106	89	76	65	57	50	44	40	36	32
FC	1192.6	298.2	132.5	74.5	47.7	33.1	24.3	18.6	14.7	11.9	9.9	8.3	7.1	6.1	5.3	4.7	4.1	3.7	3.3	3

Color Details

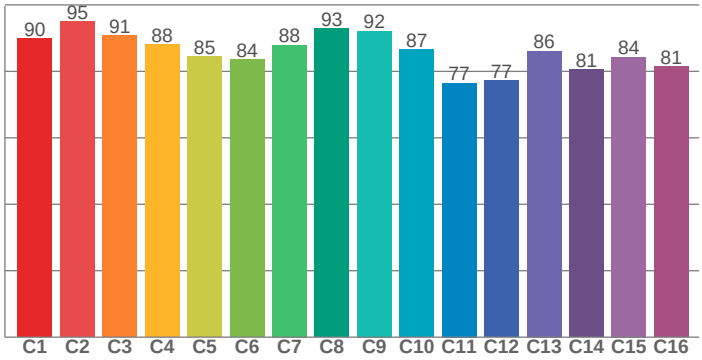


CIE 1931

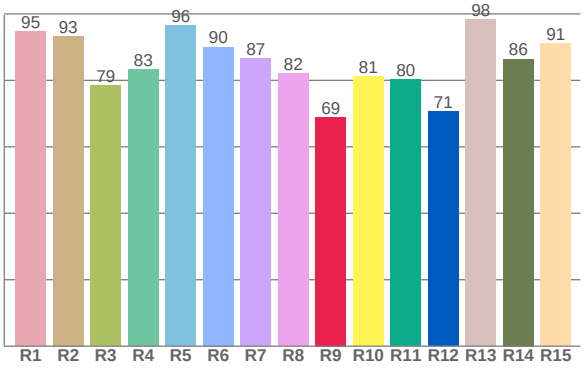


CIE 1931 ZOOM

TM30: 86.5



CRI: 88.2 (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
94.8	93.4	78.5	83.3	96.4	90.1	86.7	82.1	69.0	81.1	80.2	70.6	98.2	86.5	91.2

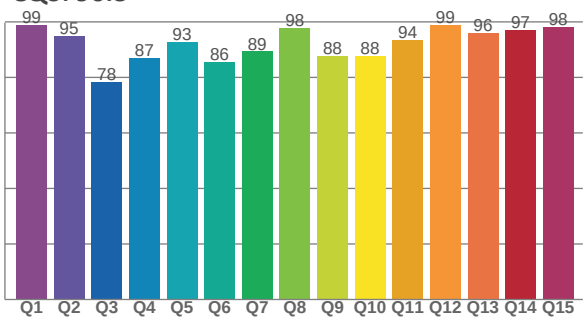
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89.8	94.9	90.8	88.0	84.6	83.6	88.0	92.8	92.1	86.5	76.5	77.2	86.1	80.6	84.3	81.5

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98.8	95.0	78.3	86.9	92.9	85.6	89.3	97.7	87.7	87.7	93.6	98.8	96.1	97.2	98.3

CQS: 90.3



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
4544 K	88.2	69.0	86.5	108.0	90.3	0.358	0.353	0.219	0.325	-0.0041

TM30 Details

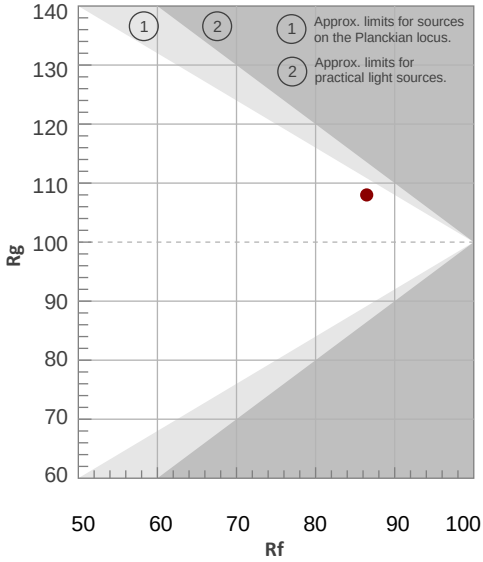
Rf 86.5

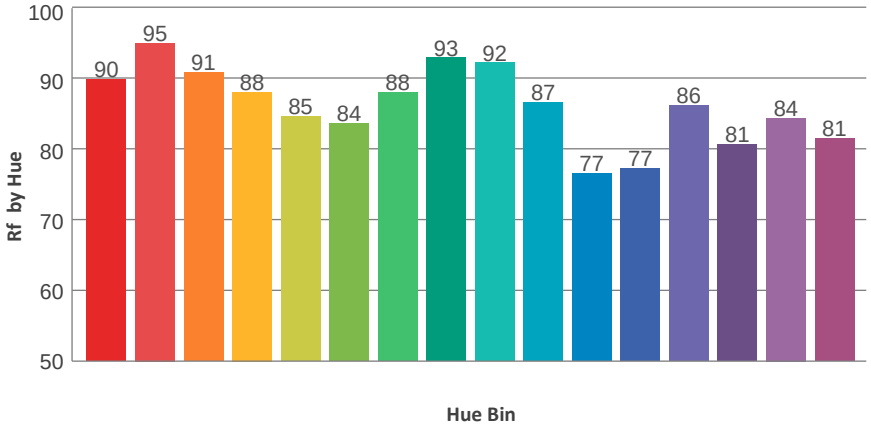
Fidelity Index Rf

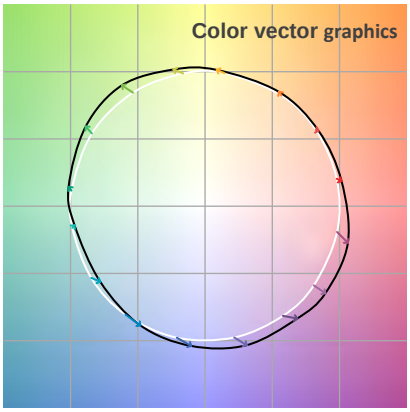
Rg 108.0

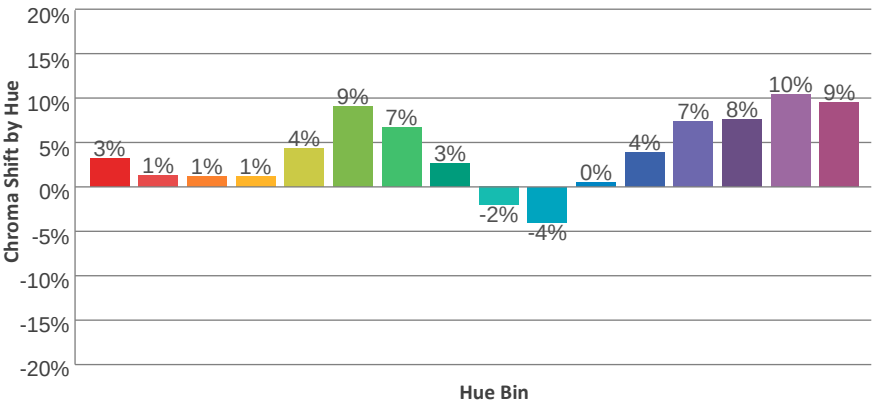
Gamut Index Rg

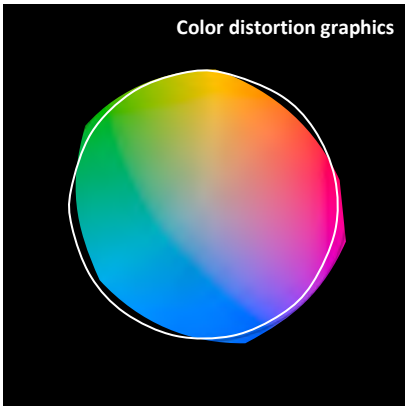
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	90	3%	-2%
2	95	1%	-2%
3	91	1%	3%
4	88	1%	6%
5	85	4%	6%
6	84	9%	4%
7	88	7%	-2%
8	93	3%	-2%
9	92	-2%	-1%
10	87	-4%	6%
11	77	0%	14%
12	77	4%	12%
13	86	7%	8%
14	81	8%	8%
15	84	10%	0%
16	81	9%	-6%

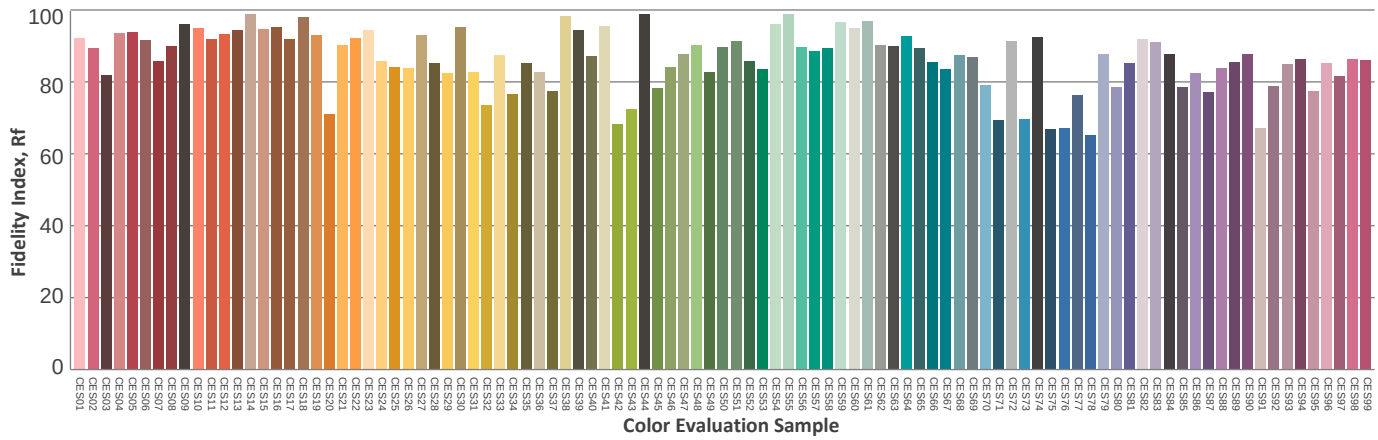












Fuze Pendant (5000K, 45° Lens)

Total Lumen Output: 9744 lm

Color Temperature: 5020 K

CRI: 88.0

TLCI: 82

TM30: 85.4

CQS: 88.5

Measurement Date: 2/20/2020

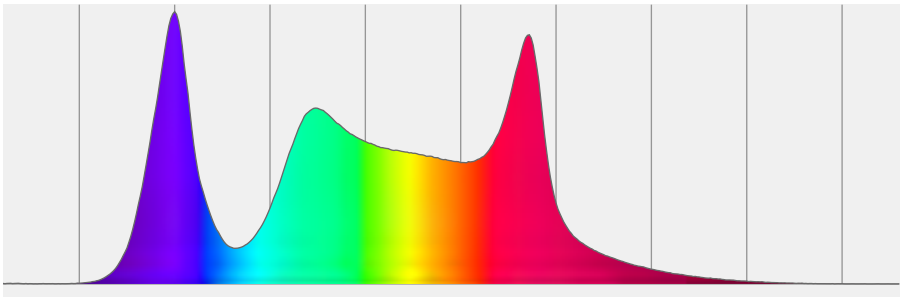
Voltage: 108 V, Current: 1.89 A

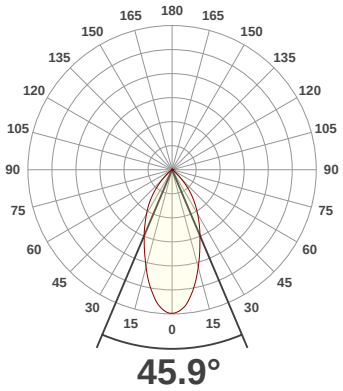
Power: 201.2 W

Efficacy: 48 Lumen/Watt

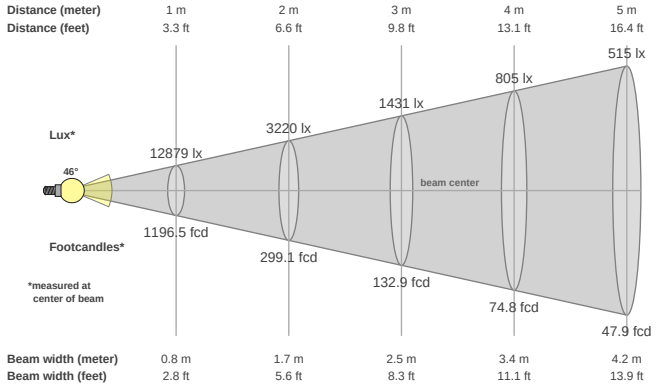
Spectral distribution

Dominant Wavelength 587





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.9°	89.8°	105.1°

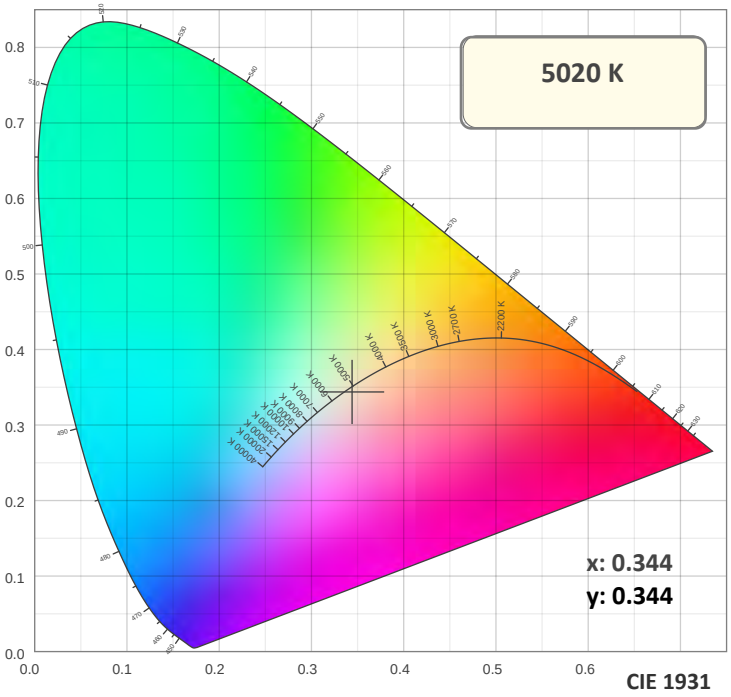
Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
12886 cd	99.3%	93.8%

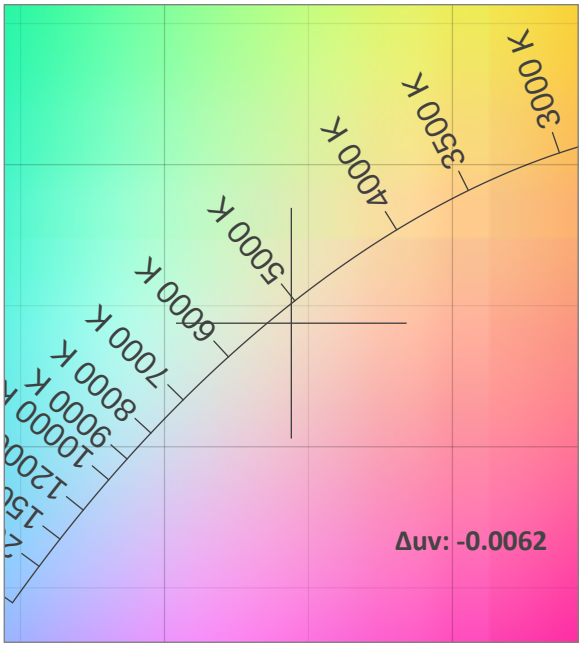
Beam Intensities from 1-20m

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	12879	3220	1431	805	515	358	263	201	159	129	106	89	76	66	57	50	45	40	36	32
FC	1196.5	299.1	132.9	74.8	47.9	33.2	24.4	18.7	14.8	12	9.9	8.3	7.1	6.1	5.3	4.7	4.1	3.7	3.3	3

Color Details

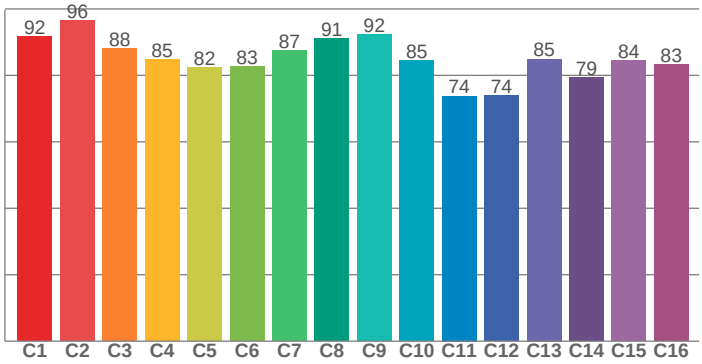


CIE 1931

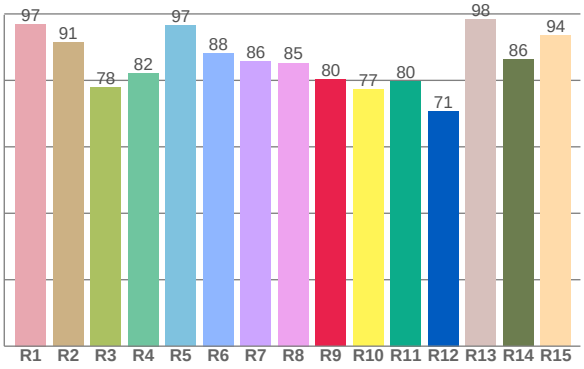


CIE 1931 ZOOM

TM30: 85.4



CRI: 88.0 (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
97.0	91.4	77.9	82.2	96.5	88.2	85.8	85.3	80.3	77.2	79.8	70.8	98.3	86.3	93.5

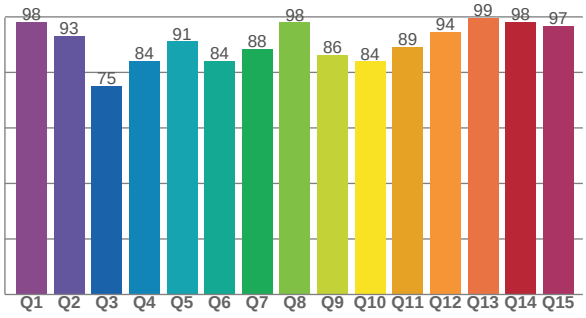
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91.6	96.4	88.1	84.8	82.4	82.6	87.4	91.1	92.4	84.5	73.8	74.0	85.0	79.4	84.4	83.2

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
98.2	93.1	75.1	84.1	91.1	84.0	88.4	98.0	86.4	84.0	89.3	94.4	99.5	98.0	96.8

CQS: 88.5



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
5020 K	88.0	80.3	85.4	107.5	88.5	0.344	0.344	0.214	0.320	-0.0062

TM30 Details

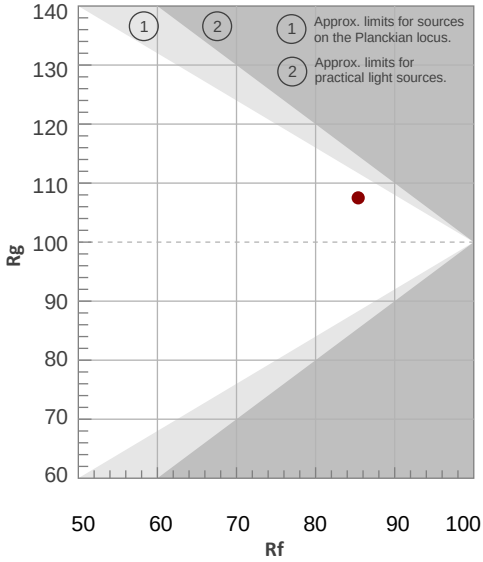
Rf 85.4

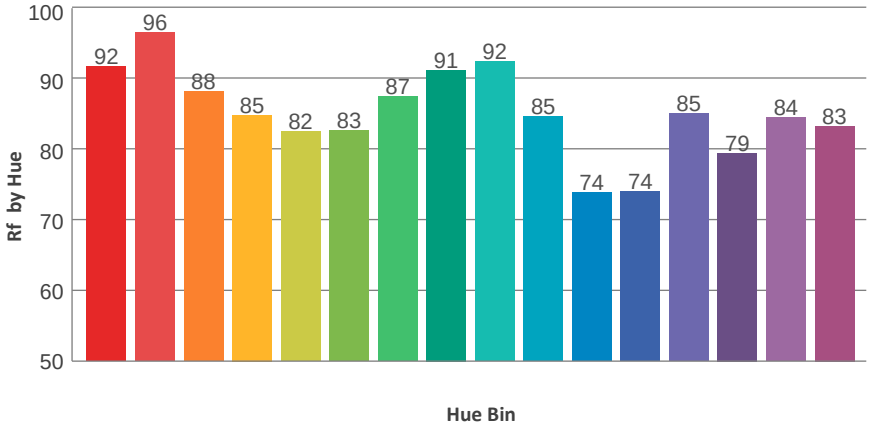
Fidelity Index Rf

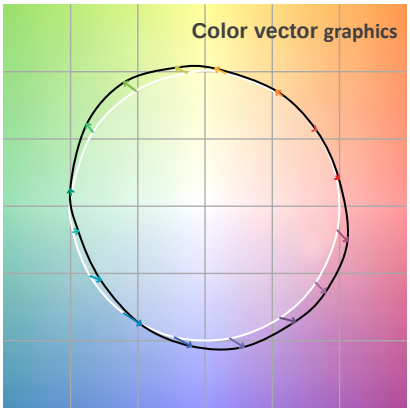
Rg 107.5

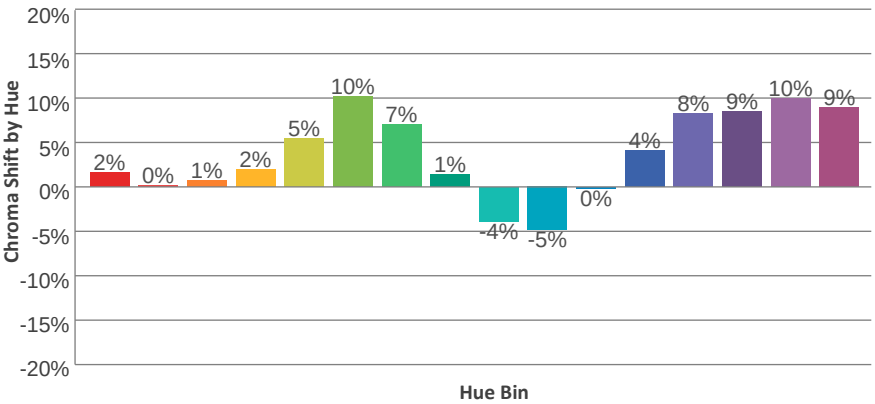
Gamut Index Rg

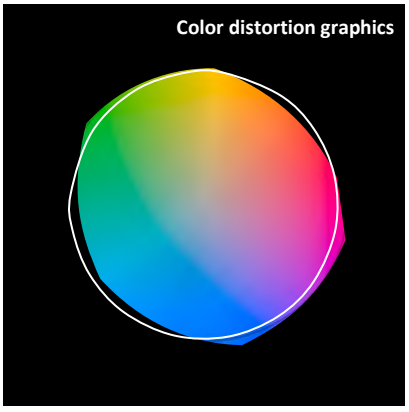
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	92	2%	-2%
2	96	0%	0%
3	88	1%	5%
4	85	2%	8%
5	82	5%	7%
6	83	10%	4%
7	87	7%	-2%
8	91	1%	-4%
9	92	-4%	0%
10	85	-5%	7%
11	74	0%	15%
12	74	4%	13%
13	85	8%	9%
14	79	9%	8%
15	84	10%	-2%
16	83	9%	-7%

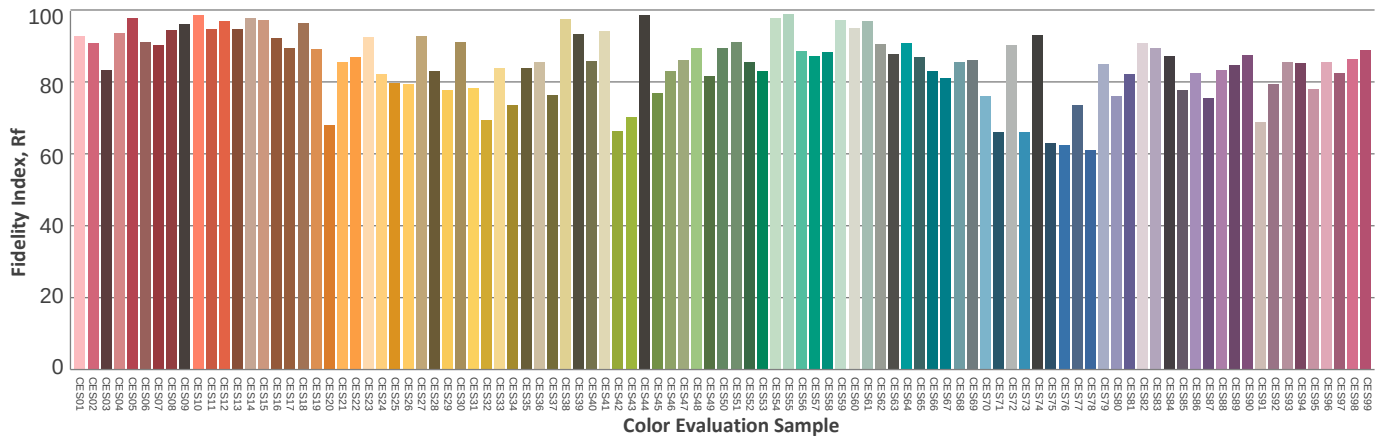












Fuze Pendant (5600K, 45° Lens)

Total Lumen Output: 9562 lm

Color Temperature: 5680 K

CRI: 86.6

TLCI: 83

TM30: 83.7

CQS: 88.7

Measurement Date: 2/20/2020

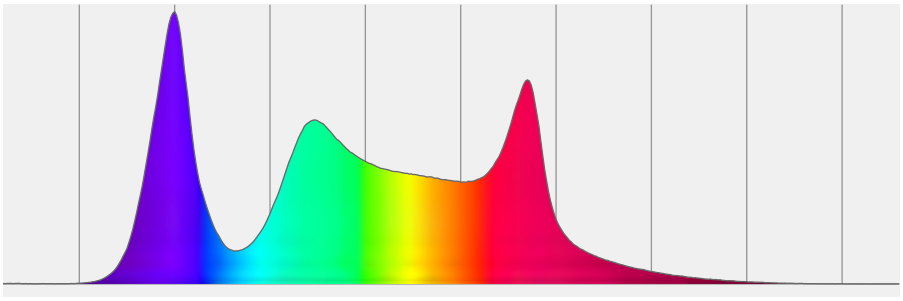
Voltage: 108 V, Current: 1.92 A

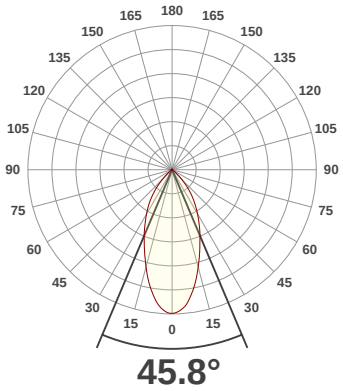
Power: 202.8 W

Efficacy: 47 Lumen/Watt

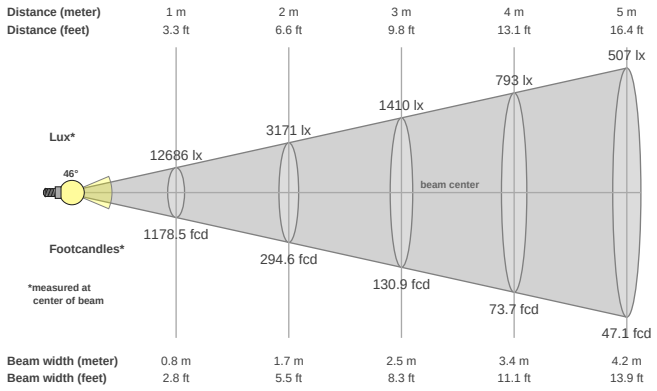
Spectral distribution

Dominant Wavelength 602





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.8°	89.7°	105°

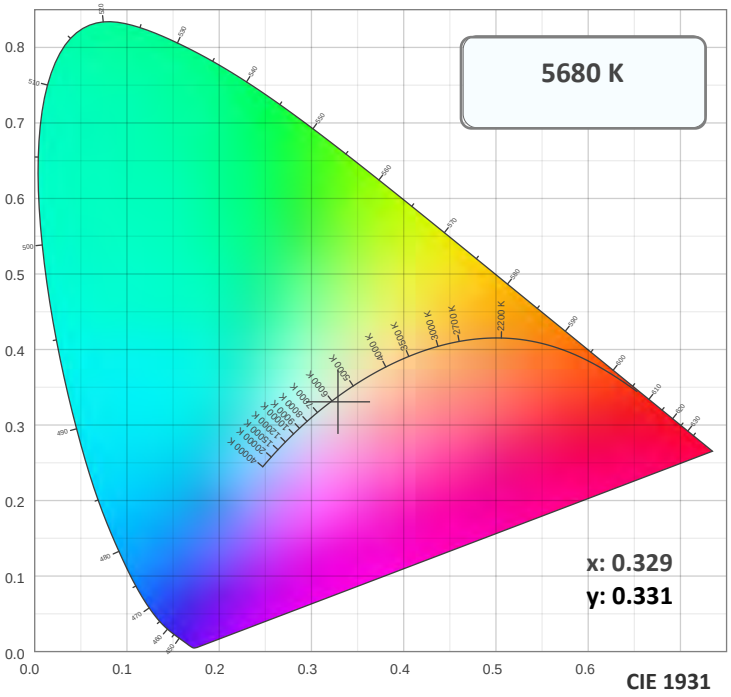
Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
12689 cd	99.4%	94.0%

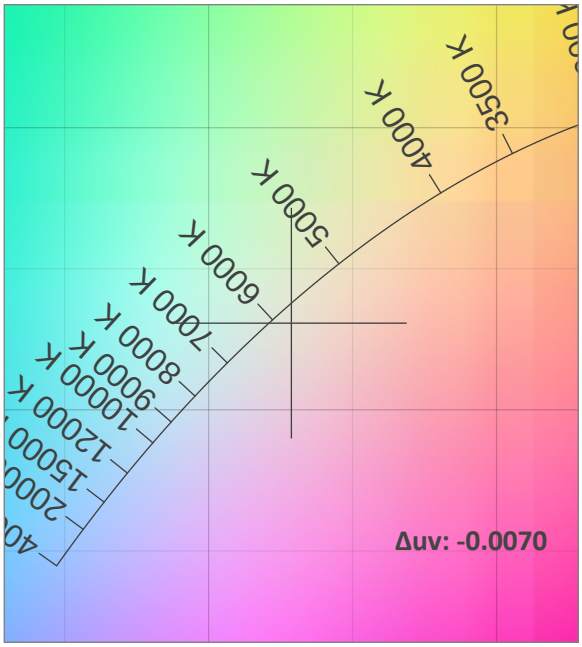
Beam Intensities from 1-20m

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	12686	3171	1410	793	507	352	259	198	157	127	105	88	75	65	56	50	44	39	35	32
FC	1178.5	294.6	130.9	73.7	47.1	32.7	24.1	18.4	14.5	11.8	9.7	8.2	7	6	5.2	4.6	4.1	3.6	3.3	2.9

Color Details

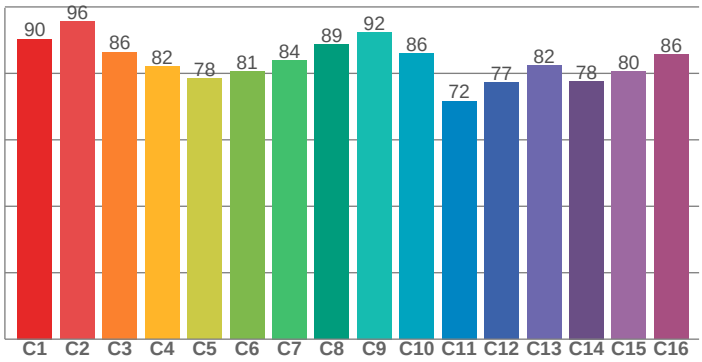


CIE 1931

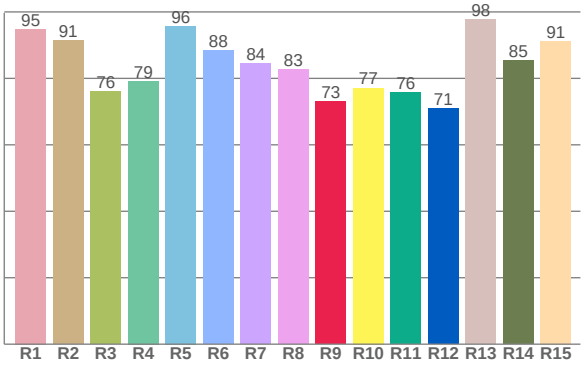


CIE 1931 ZOOM

TM30: 83.7



CRI: 86.6 (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
94.8	91.3	76.1	79.2	95.7	88.4	84.5	82.6	73.0	77.1	75.8	70.8	97.8	85.4	91.2

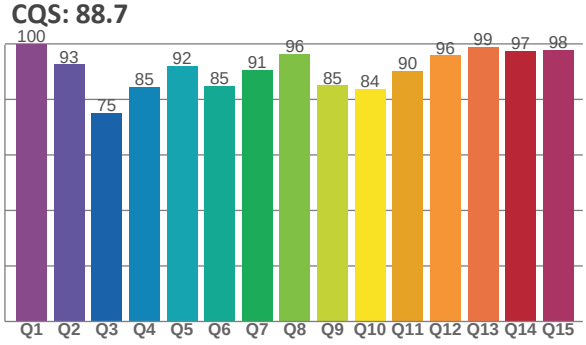
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.3	95.7	86.5	82.1	78.4	80.6	84.0	88.7	92.4	86.0	71.7	77.3	82.4	77.7	80.5	85.7

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
100.0	92.6	75.2	84.6	92.1	84.8	90.5	96.3	85.0	83.8	90.2	95.8	98.9	97.4	97.8

CQS: 88.7



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
5680 K	86.6	73.0	83.7	109.6	88.7	0.329	0.331	0.208	0.314	-0.0070

Prepared For ELATION PROFESSIONAL

TM30 Details

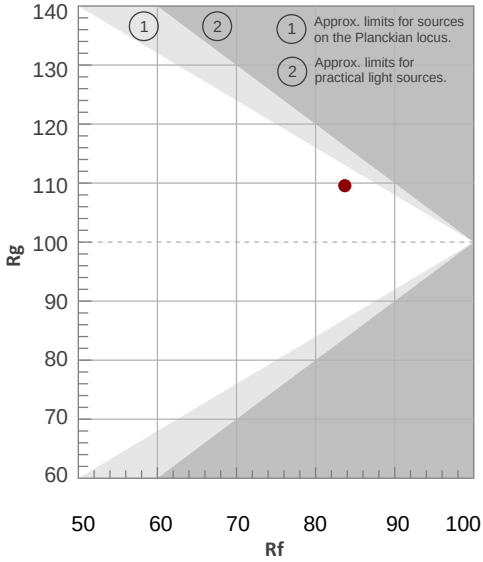
Rf 83.7

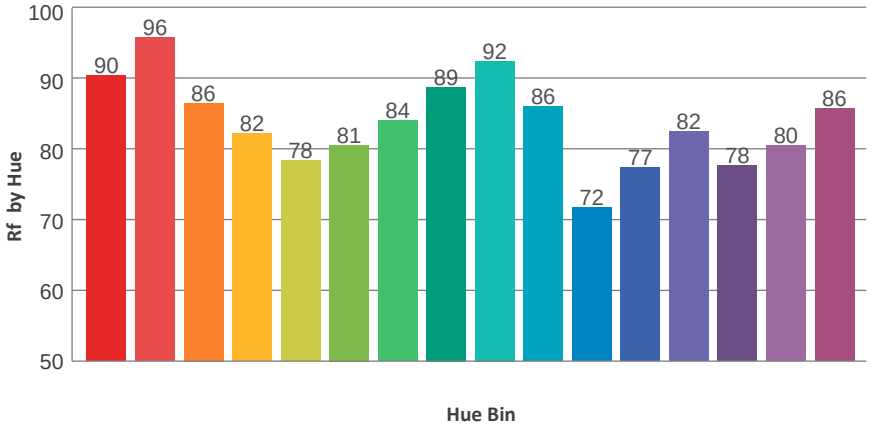
Fidelity Index Rf

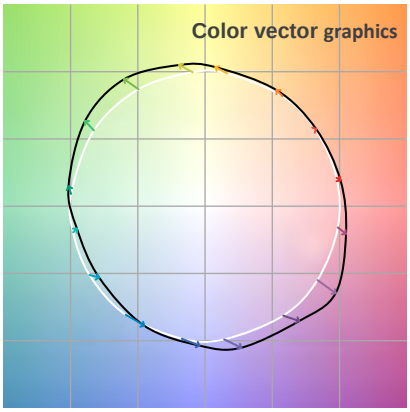
Rg 109.6

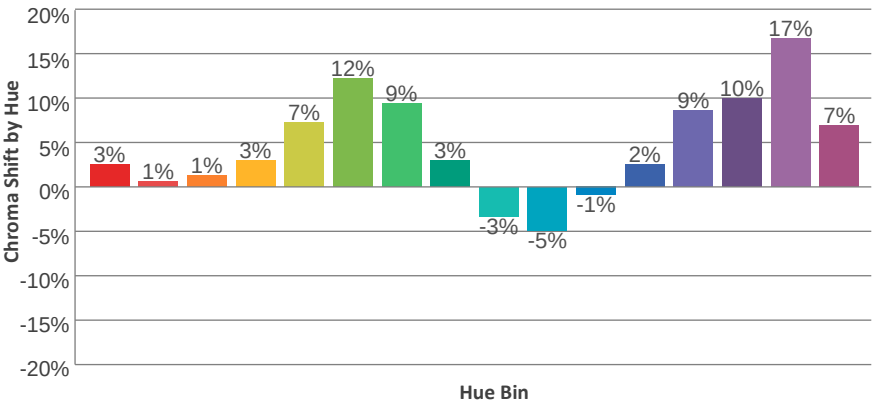
Gamut Index Rg

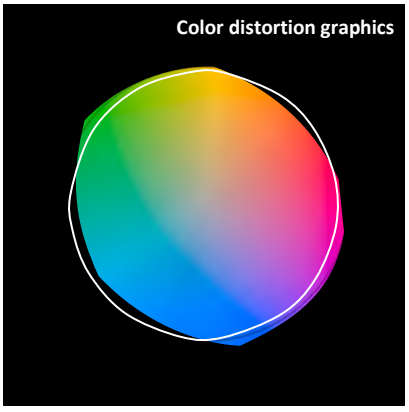
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	90	3%	-2%
2	96	1%	0%
3	86	1%	6%
4	82	3%	10%
5	78	7%	9%
6	81	12%	5%
7	84	9%	-2%
8	89	3%	-5%
9	92	-3%	-2%
10	86	-5%	5%
11	72	-1%	16%
12	77	2%	14%
13	82	9%	11%
14	78	10%	8%
15	80	17%	-1%
16	86	7%	-3%

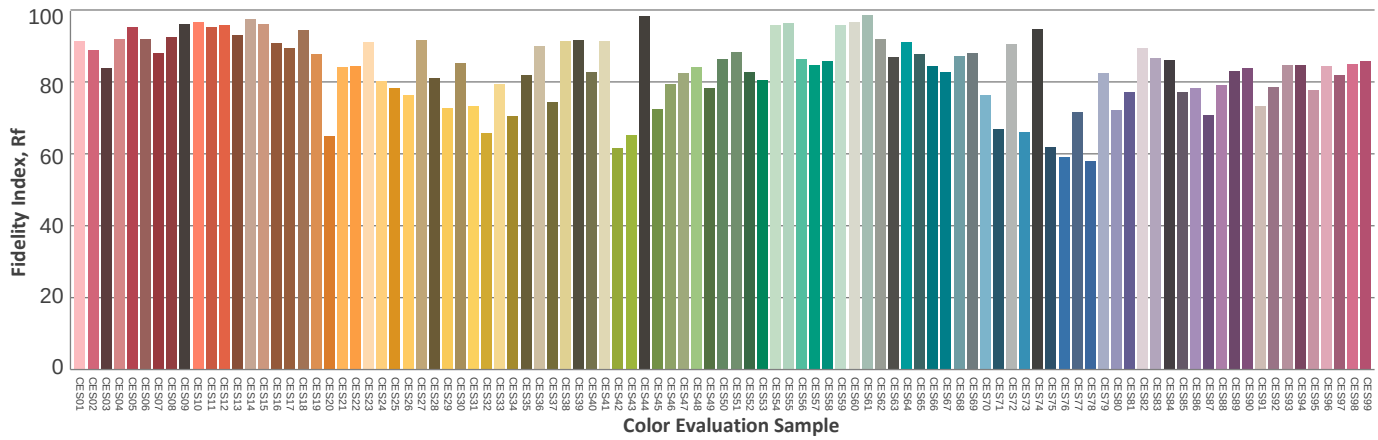












Fuze Pendant (6000K, 45° Lens)

Total Lumen Output: 9477 lm

Color Temperature: 6055 K

CRI: 85.5

TLCI: 83

TM30: 83.1

CQS: 88.6

Measurement Date: 2/20/2020

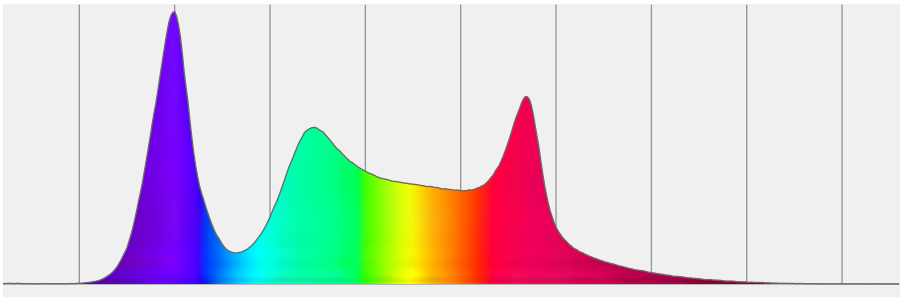
Voltage: 108 V, Current: 1.92 A

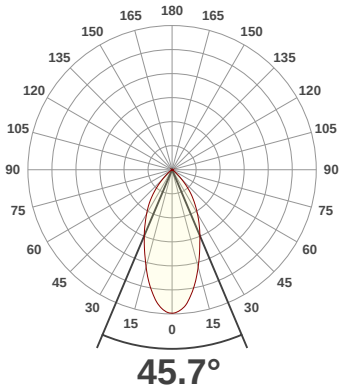
Power: 204.2 W

Efficacy: 46 Lumen/Watt

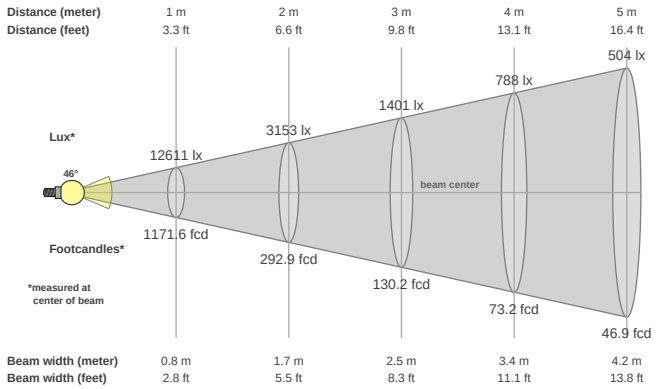
Spectral distribution

Dominant Wavelength 829





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.7°	89.6°	104.9°

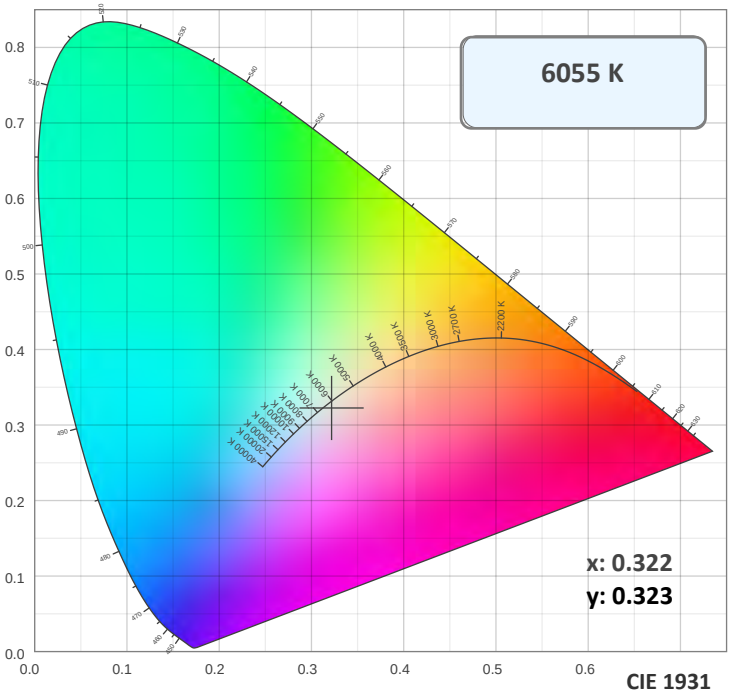
Beam intensities

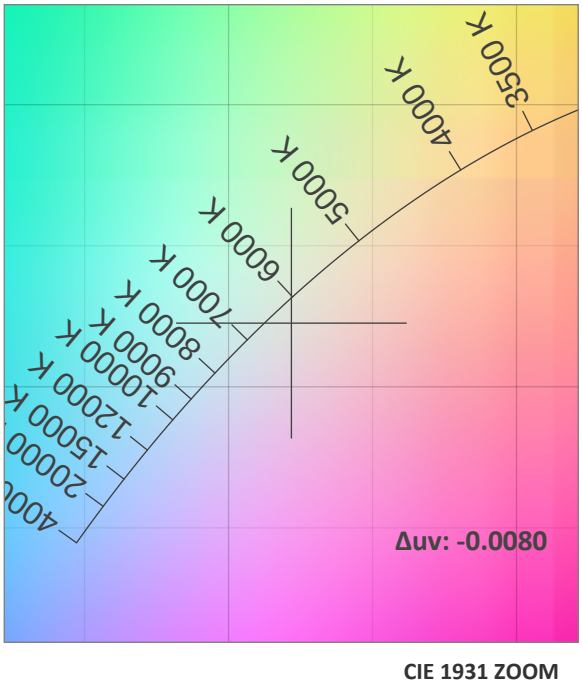
Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
12624 cd	99.5%	94.1%

Beam Intensities from 1-20m

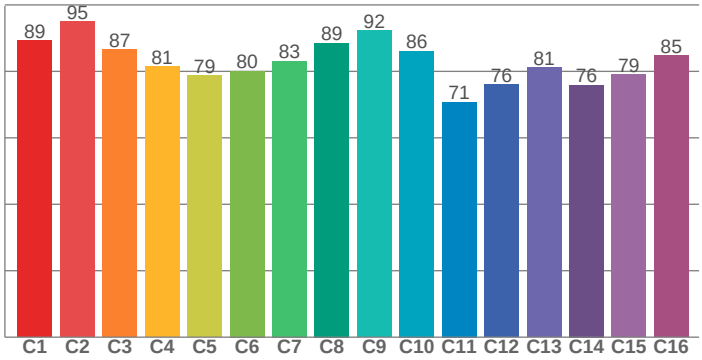
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
LX	12611	3153	1401	788	504	350	257	197	156	126	104	88	75	64	56	49	44	39	35	32
FC	1171.6	292.9	130.2	73.2	46.9	32.5	23.9	18.3	14.5	11.7	9.7	8.1	6.9	6	5.2	4.6	4.1	3.6	3.2	2.9

Color Details

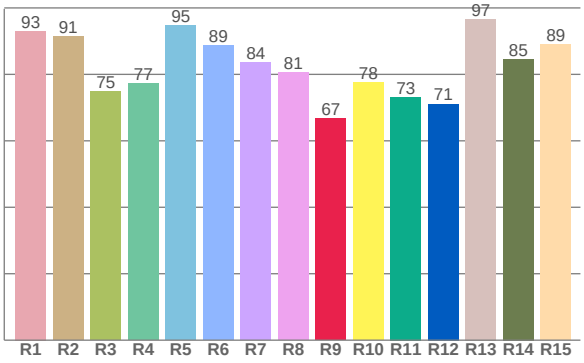




TM30: 83.1



CRI: 85.5 (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
93.0	91.5	74.9	77.2	94.7	88.7	83.6	80.6	66.7	77.5	73.2	71.1	96.6	84.6	89.1

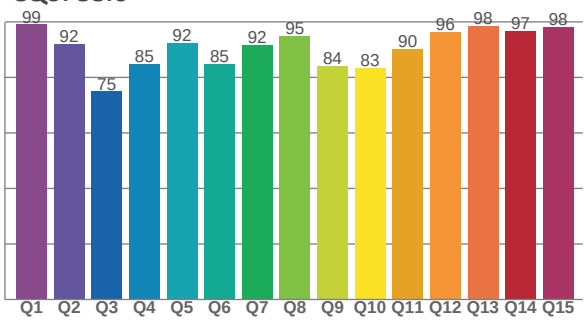
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89.2	95.0	86.6	81.5	78.8	80.1	83.2	88.5	92.3	86.2	70.7	76.1	81.2	75.9	79.1	84.8

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
99.1	92.1	74.9	84.8	92.5	84.9	91.7	95.0	84.0	83.4	90.3	96.3	98.5	96.8	98.1

CQS: 88.6



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
6055 K	85.5	66.7	83.1	110.3	88.6	0.322	0.323	0.207	0.311	-0.0080

TM30 Details

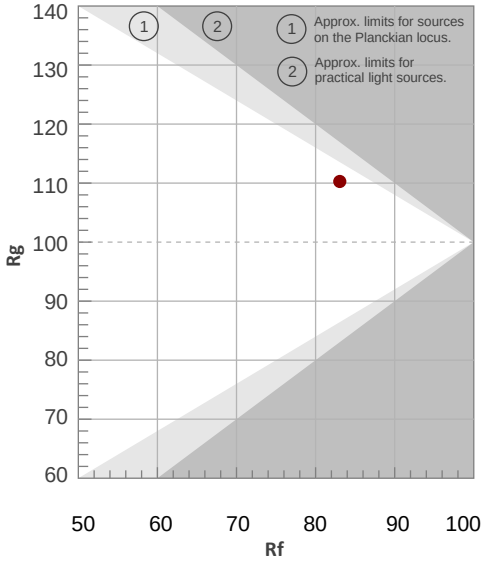
Rf 83.1

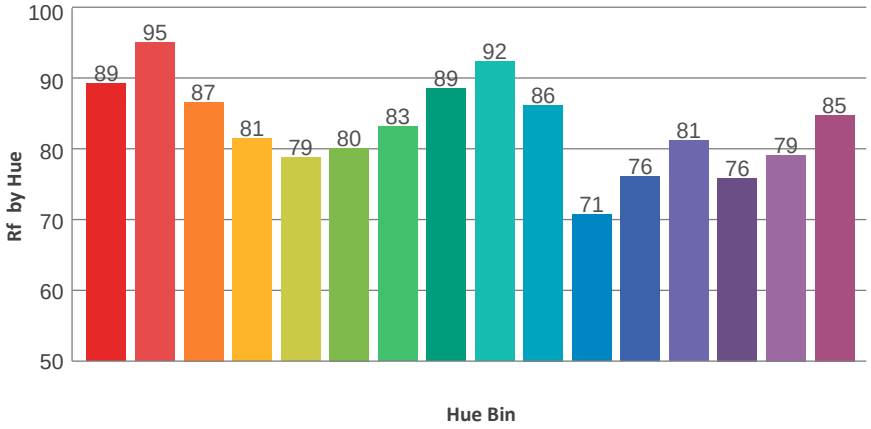
Fidelity Index Rf

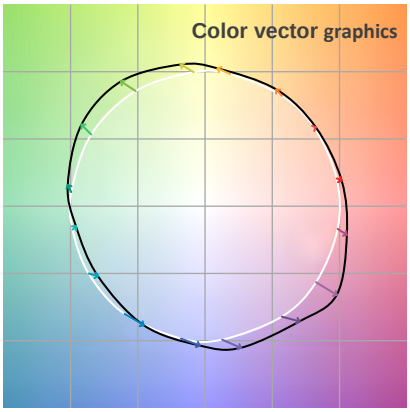
Rg 110.3

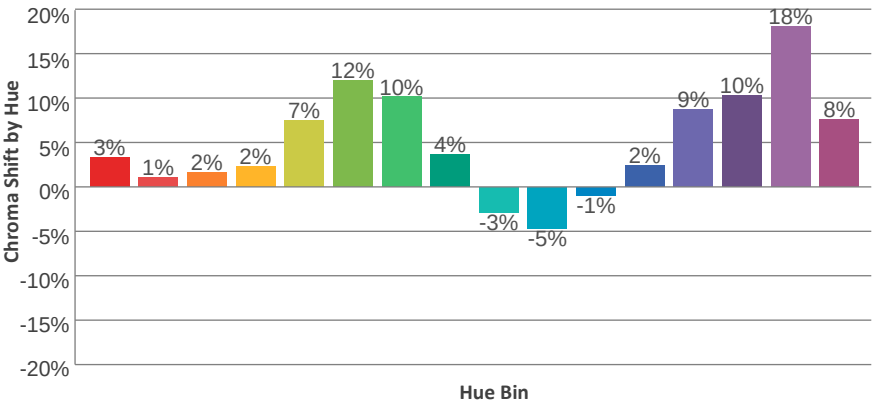
Gamut Index Rg

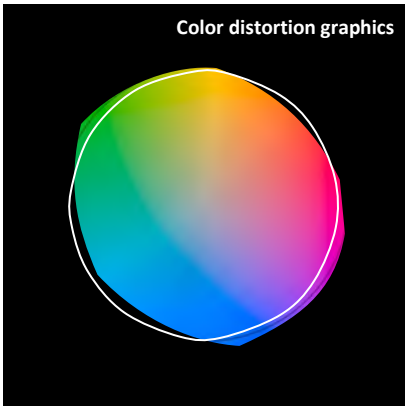
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	89	3%	-2%
2	95	1%	0%
3	87	2%	6%
4	81	2%	10%
5	79	7%	8%
6	80	12%	5%
7	83	10%	-2%
8	89	4%	-5%
9	92	-3%	-2%
10	86	-5%	5%
11	71	-1%	16%
12	76	2%	15%
13	81	9%	12%
14	76	10%	9%
15	79	18%	1%
16	85	8%	-3%

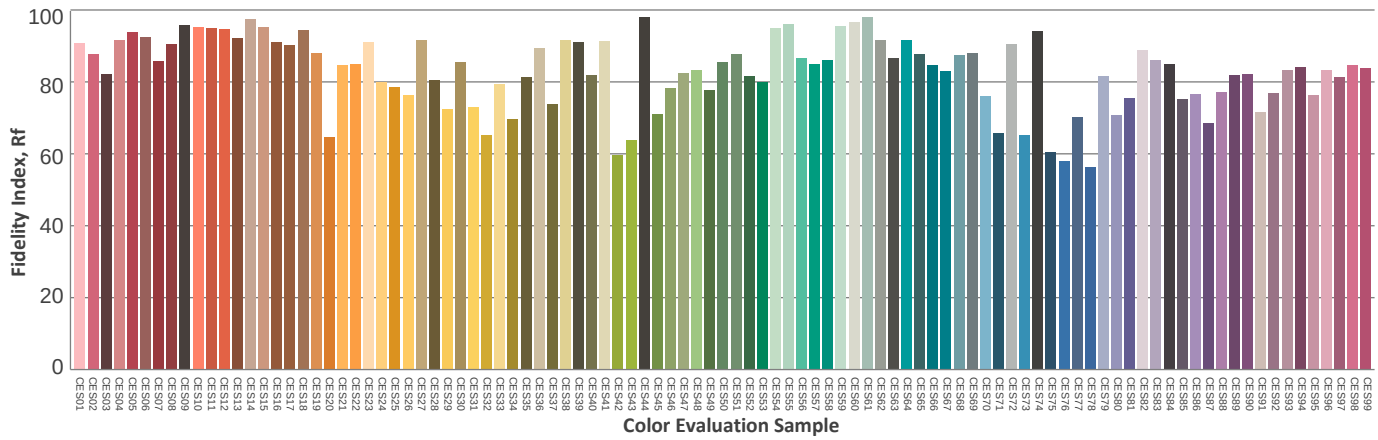












Fuze Pendant (6500K, 45° Lens)

Total Lumen Output: 9313 lm

Color Temperature: 6228 K

CRI: 86.6

TLCI: 85

TM30: 83.6

CQS: 88.5

Measurement Date: 2/18/2020

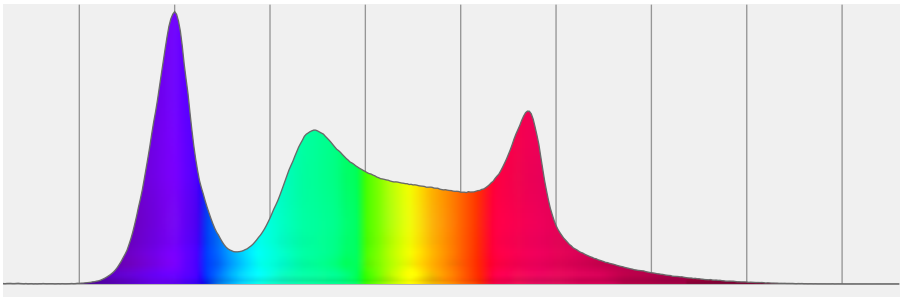
Voltage: 117 V, Current: 1.75 A

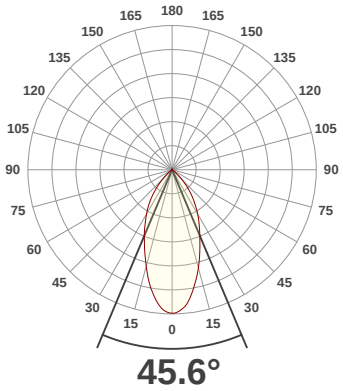
Power: 200 W

Efficacy: 47 Lumen/Watt

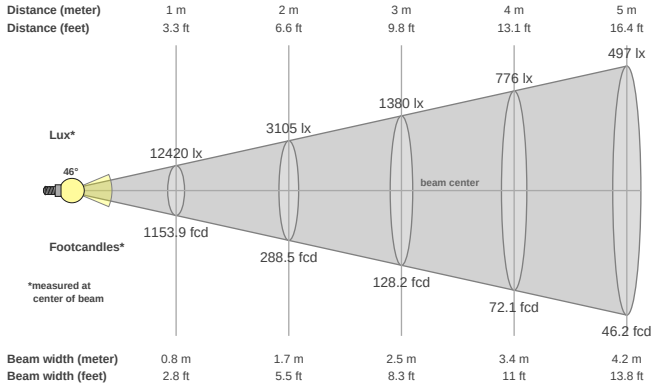
Spectral distribution

Dominant Wavelength 829





Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.6°	89.6°	104.8°

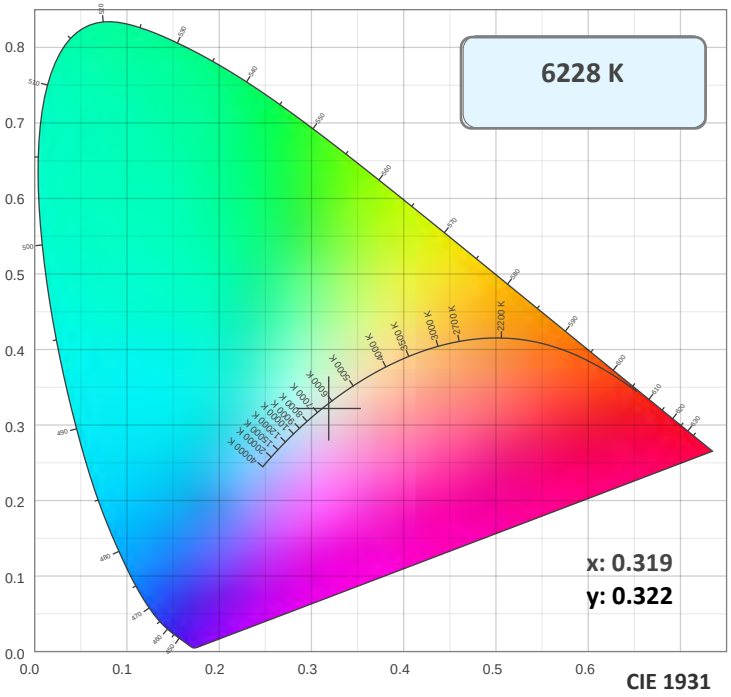
Beam intensities

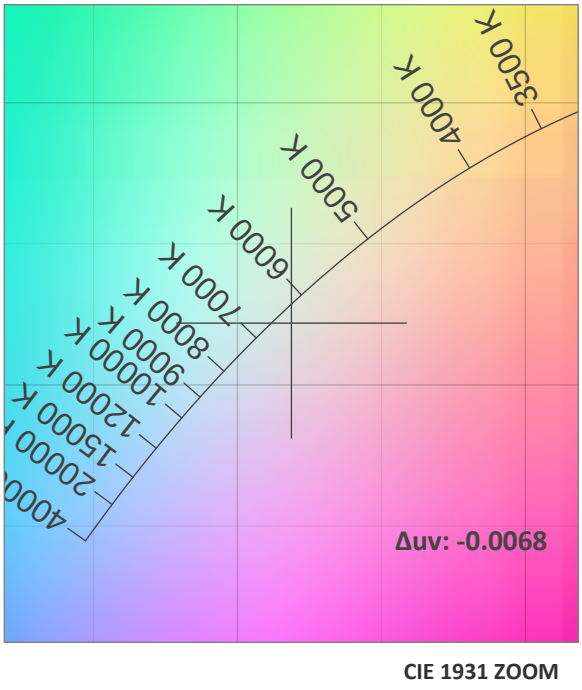
Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
12434 cd	99.7%	94.4%

Beam Intensities from 1-20m

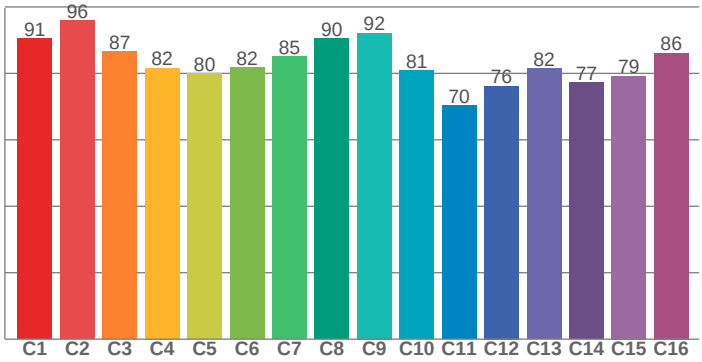
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
LX	12420	3105	1380	776	497	345	253	194	153	124	103	86	73	63	55	49	43	38	34	31
FC	1153.9	288.5	128.2	72.1	46.2	32.1	23.5	18	14.2	11.5	9.5	8	6.8	5.9	5.1	4.5	4	3.6	3.2	2.9

Color Details

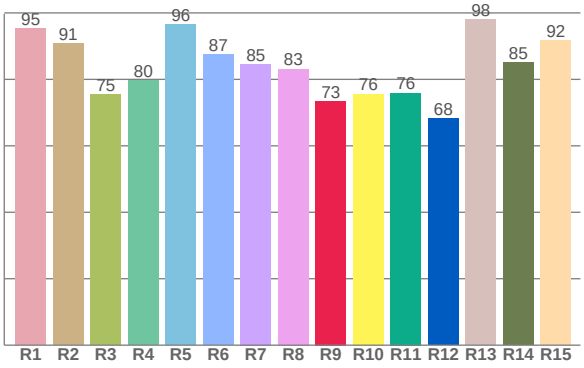




TM30: 83.6



CRI: 86.6 (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
95.3	90.8	75.4	79.6	96.5	87.4	84.6	83.2	73.5	75.6	75.9	68.2	97.9	85.1	91.7

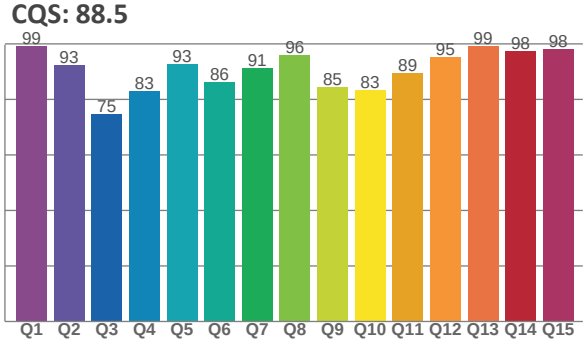
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.6	95.8	86.7	81.6	79.9	81.8	85.0	90.4	92.1	80.8	70.4	76.3	81.5	77.3	79.2	86.1

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
99.4	92.5	74.6	83.0	92.6	86.2	91.3	95.9	84.5	83.3	89.5	95.3	99.1	97.5	98.2

CQS: 88.5



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
6228 K	86.6	73.5	83.6	108.9	88.5	0.319	0.322	0.205	0.310	-0.0068

TM30 Details

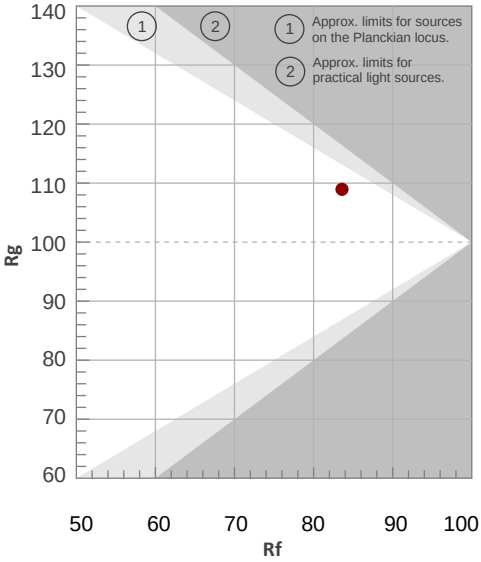
Rf 83.6

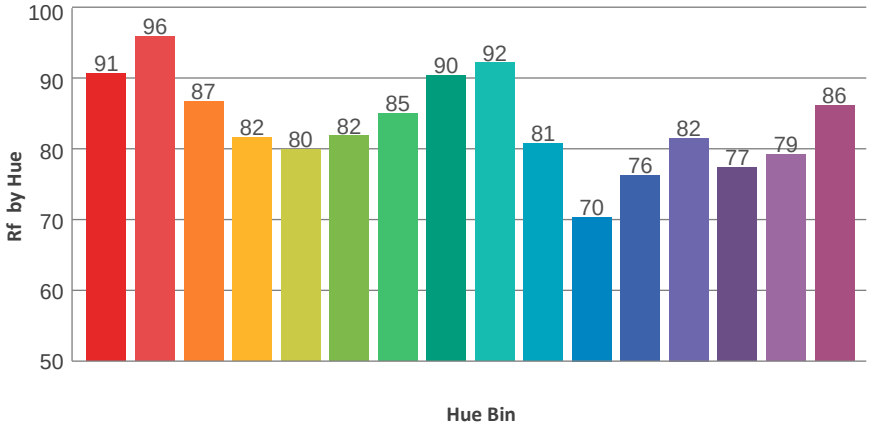
Fidelity Index Rf

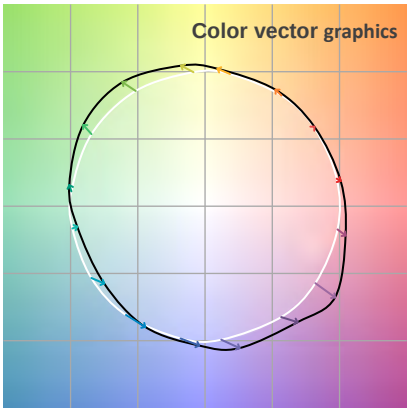
Rg 108.9

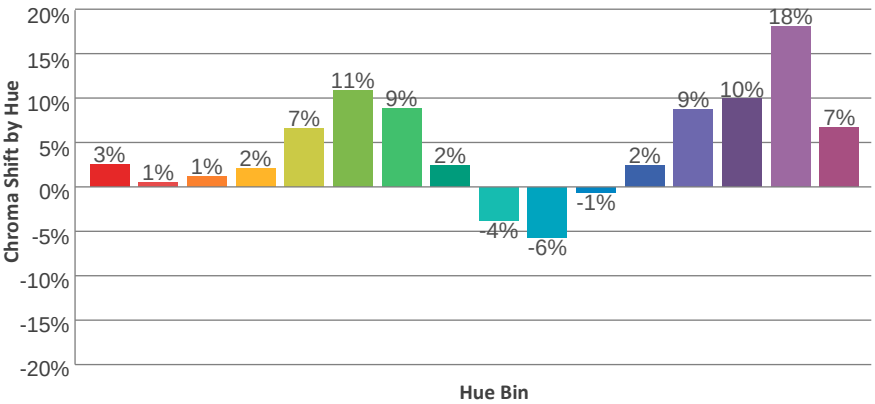
Gamut Index Rg

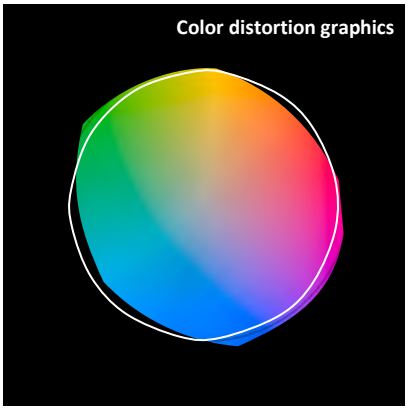
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	91	3%	-2%
2	96	1%	0%
3	87	1%	6%
4	82	2%	10%
5	80	7%	8%
6	82	11%	5%
7	85	9%	-2%
8	90	2%	-4%
9	92	-4%	-1%
10	81	-6%	9%
11	70	-1%	17%
12	76	2%	15%
13	82	9%	12%
14	77	10%	8%
15	79	18%	-1%
16	86	7%	-3%

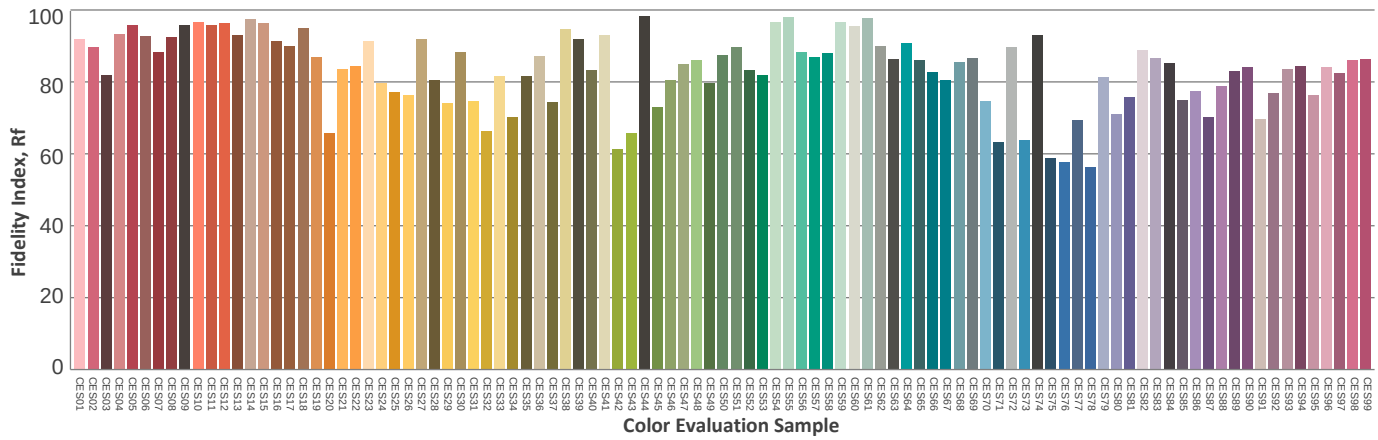












Fuze Pendant (Red, 45° Lens)

Prepared For ELATION PROFESSIONAL

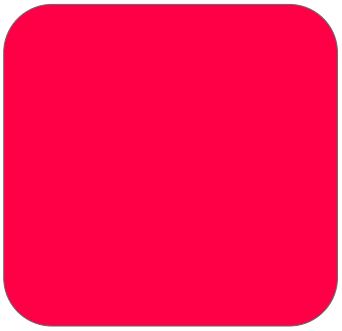
Total Lumen Output: 1152 lm

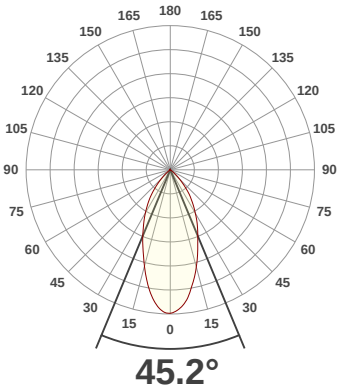
Voltage: 119 V, Current: 0.357 A

Power: 35.6 W

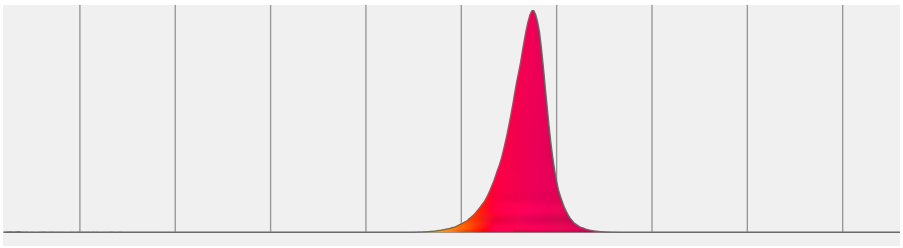
Efficacy: 32 Lumen/Watt

Measurement Date: 2/18/2020

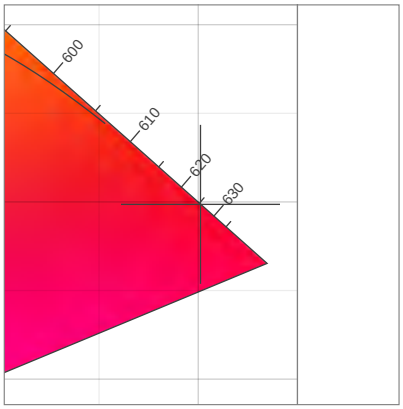




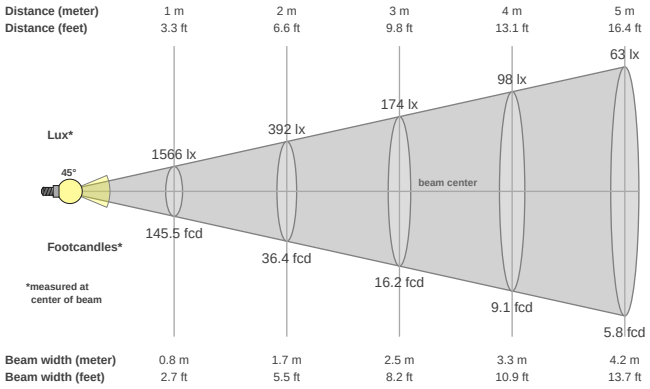
Spectral distribution



Dominant Wavelength	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate
nm	x	y	u	v
625	0.701	0.299	0.541	0.346



Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.2°	88.6°	103.7°

Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
1567 cd	99.5%	94.4%

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	1566	392	174	98	63	44	32	24	19	16	13	11	9	8	7	6	5	5	4	4
FC	145.5	36.4	16.2	9.1	5.8	4	3	2.3	1.8	1.5	1.2	1	0.9	0.7	0.6	0.6	0.5	0.4	0.4	0.4

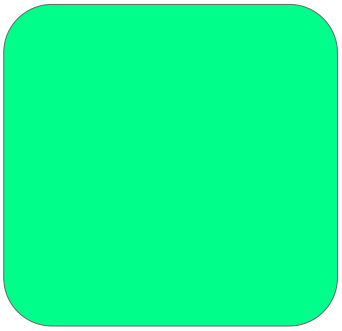
Total Lumen Output: 1879 lm

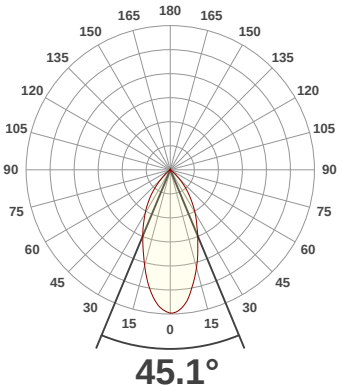
Voltage: 119 V, Current: 0.443 A

Power: 46.7 W

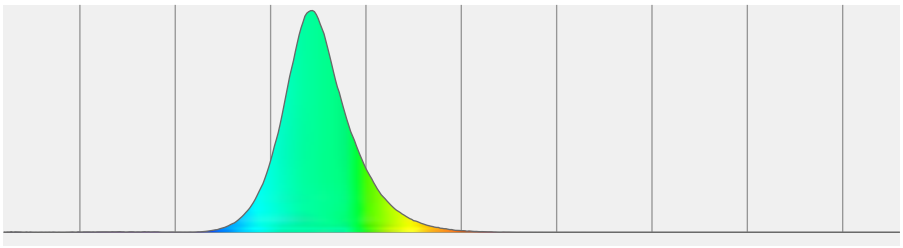
Efficacy: 40 Lumen/Watt

Measurement Date: 2/18/2020

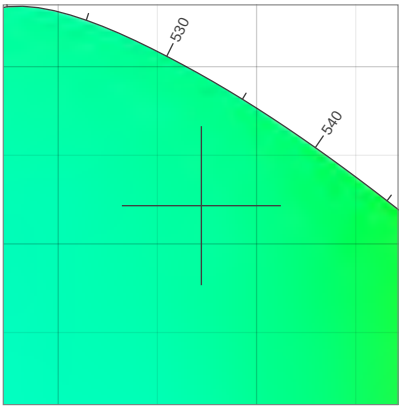




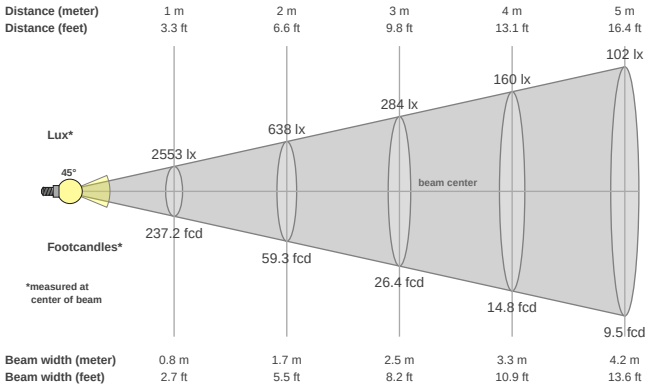
Spectral distribution



Dominant Wavelength	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate
nm	x	y	u	v
528	0.172	0.722	0.061	0.383



Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
45.1°	88.6°	104.2°

Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
2558 cd	99.4%	94.2%

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	2553	638	284	160	102	71	52	40	32	26	21	18	15	13	11	10	9	8	7	6
FC	237.2	59.3	26.4	14.8	9.5	6.6	4.8	3.7	2.9	2.4	2	1.6	1.4	1.2	1.1	0.9	0.8	0.7	0.7	0.6

Fuze Pendant (Blue, 45° Lens)

Prepared For ELATION PROFESSIONAL

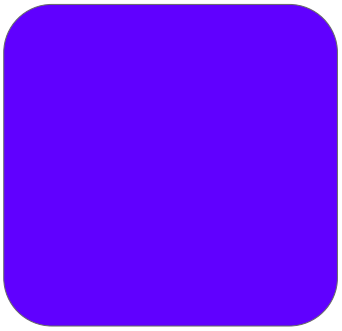
Total Lumen Output: 370 lm

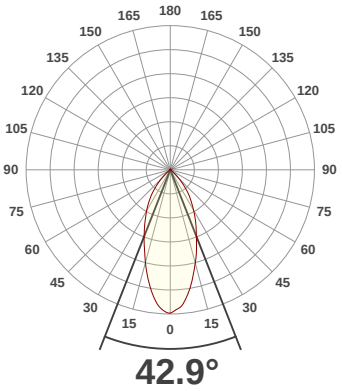
Voltage: 120 V, Current: 0.414 A

Power: 42.9 W

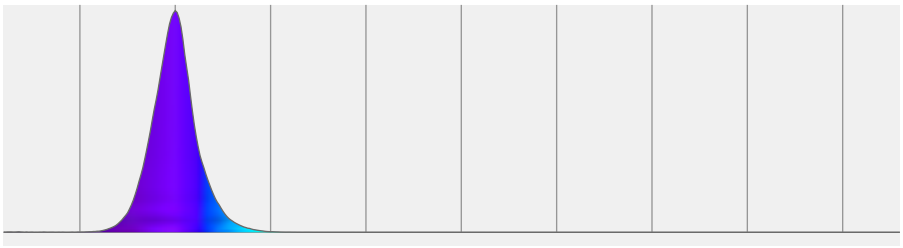
Efficacy: 9 Lumen/Watt

Measurement Date: 2/18/2020

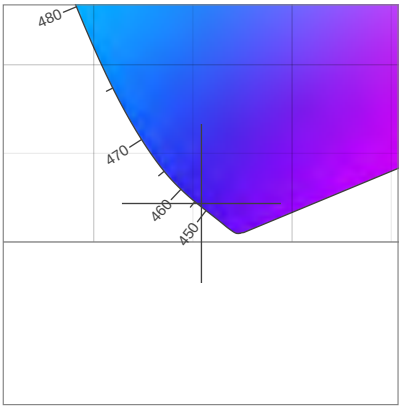




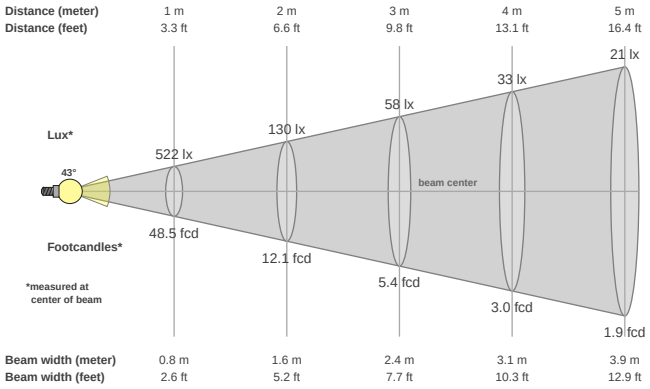
Spectral distribution



Dominant Wavelength	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate
nm	x	y	u	v
453	0.154	0.022	0.209	0.044



Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
42.9°	88.1°	104°

Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
523 cd	98.7%	93.6%

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	522	130	58	33	21	14	11	8	6	5	4	4	3	3	2	2	2	2	1	1
FC	48.5	12.1	5.4	3	1.9	1.3	1	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1

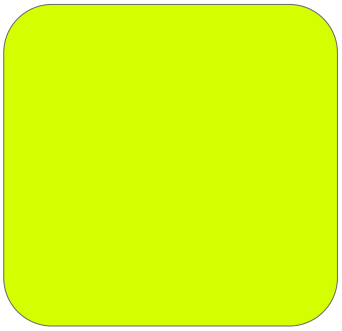
Total Lumen Output: 3249 lm

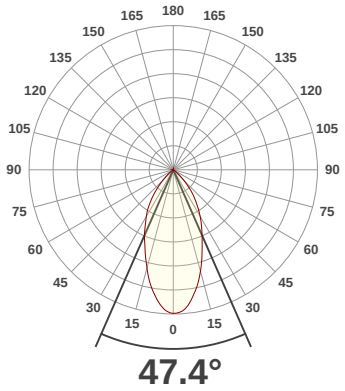
Voltage: 119 V, Current: 0.478 A

Power: 51.6 W

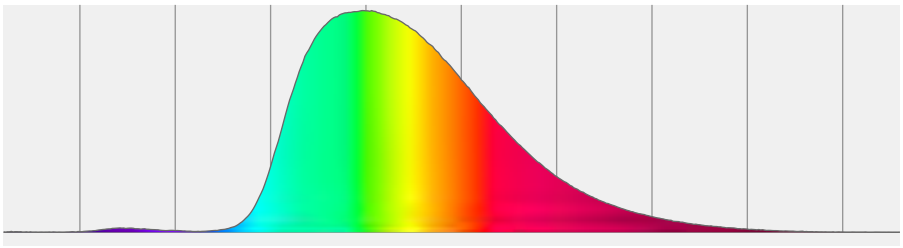
Efficacy: 63 Lumen/Watt

Measurement Date: 2/18/2020

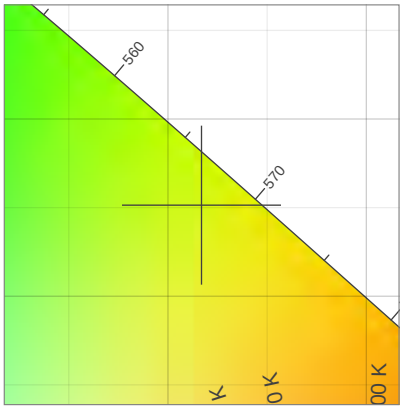




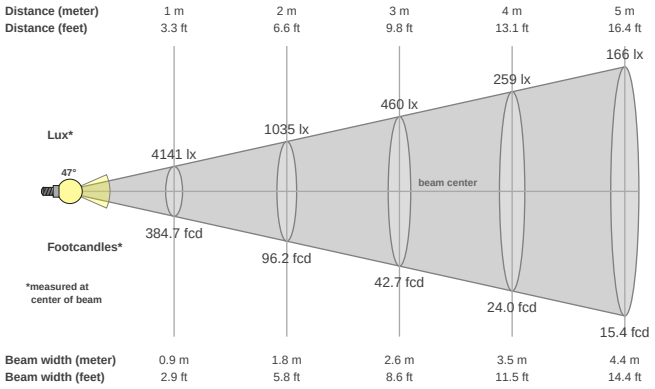
Spectral distribution



Dominant Wavelength	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate
nm	x	y	u	v
568	0.417	0.551	0.190	0.377



Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
47.4°	90.5°	105.9°

Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
4143 cd	99.2%	93.5%

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	4141	1035	460	259	166	115	85	65	51	41	34	29	25	21	18	16	14	13	11	10
FC	384.7	96.2	42.7	24	15.4	10.7	7.9	6	4.7	3.8	3.2	2.7	2.3	2	1.7	1.5	1.3	1.2	1.1	1

Fuze Pendant (White, 45° Lens)

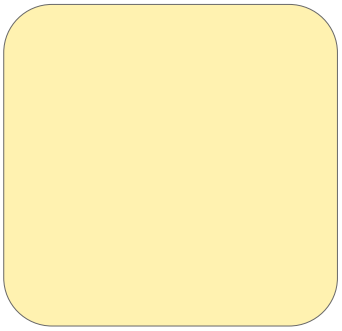
Total Lumen Output: 4387 lm

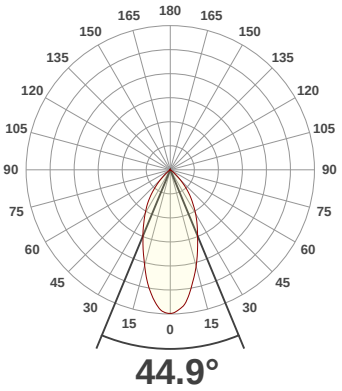
Voltage: 119 V, Current: 0.755 A

Power: 85.4 W

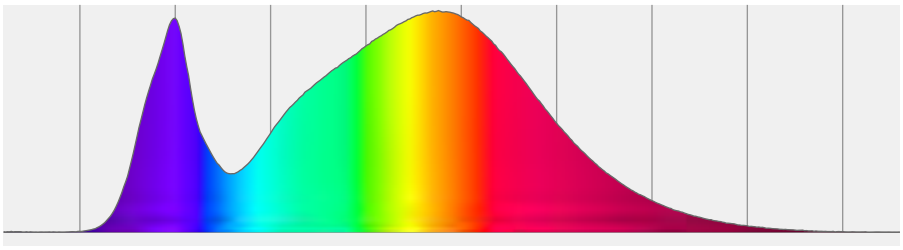
Efficacy: 51 Lumen/Watt

Measurement Date: 2/18/2020

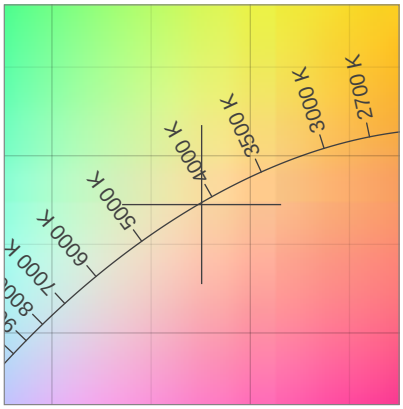




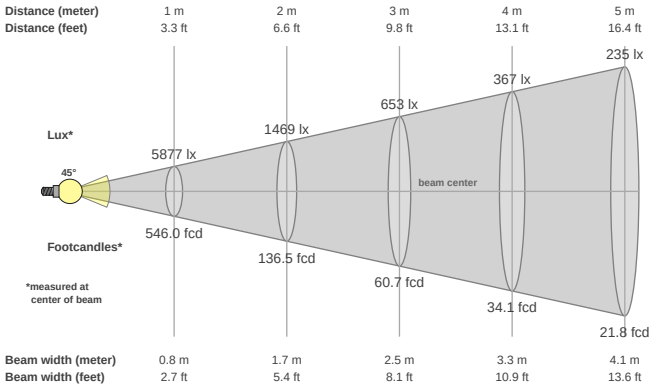
Spectral distribution



Dominant Wavelength	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate
nm	x	y	u	v
582	0.375	0.372	0.224	0.333



Beam details



Beam angles

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%
44.9°	89.8°	104.9°

Beam intensities

Peak intensity	Int. ratio in 120° cone	Int. ratio in 90° cone
5879 cd	99.3%	93.8%

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	5877	1469	653	367	235	163	120	92	73	59	49	41	35	30	26	23	20	18	16	15
FC	546	136.5	60.7	34.1	21.8	15.2	11.1	8.5	6.7	5.5	4.5	3.8	3.2	2.8	2.4	2.1	1.9	1.7	1.5	1.4