KL FRESNEL 4 FC

Photometric &

Chromaticity Test Reports

CONTENTS

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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 C800U

KL FRESNEL 4 FC (Zoom In Full Output)

Key Measurements

Output

Total Lumen Output: 1238 lm

Peak Intensity: 26562 cd

Beam

Beam Angle (50%): 11.6°

Field Angle (10%): 21.5°

Cutoff Angle (2.5%): 28.4°

Color

Color Temperature: 5814 K

CRI: 91.9

TLCI: 92

TM30 R_F: 89.3

TM30 R_g: 102.8

Power Details

Efficacy: 16 Lumen/Watt

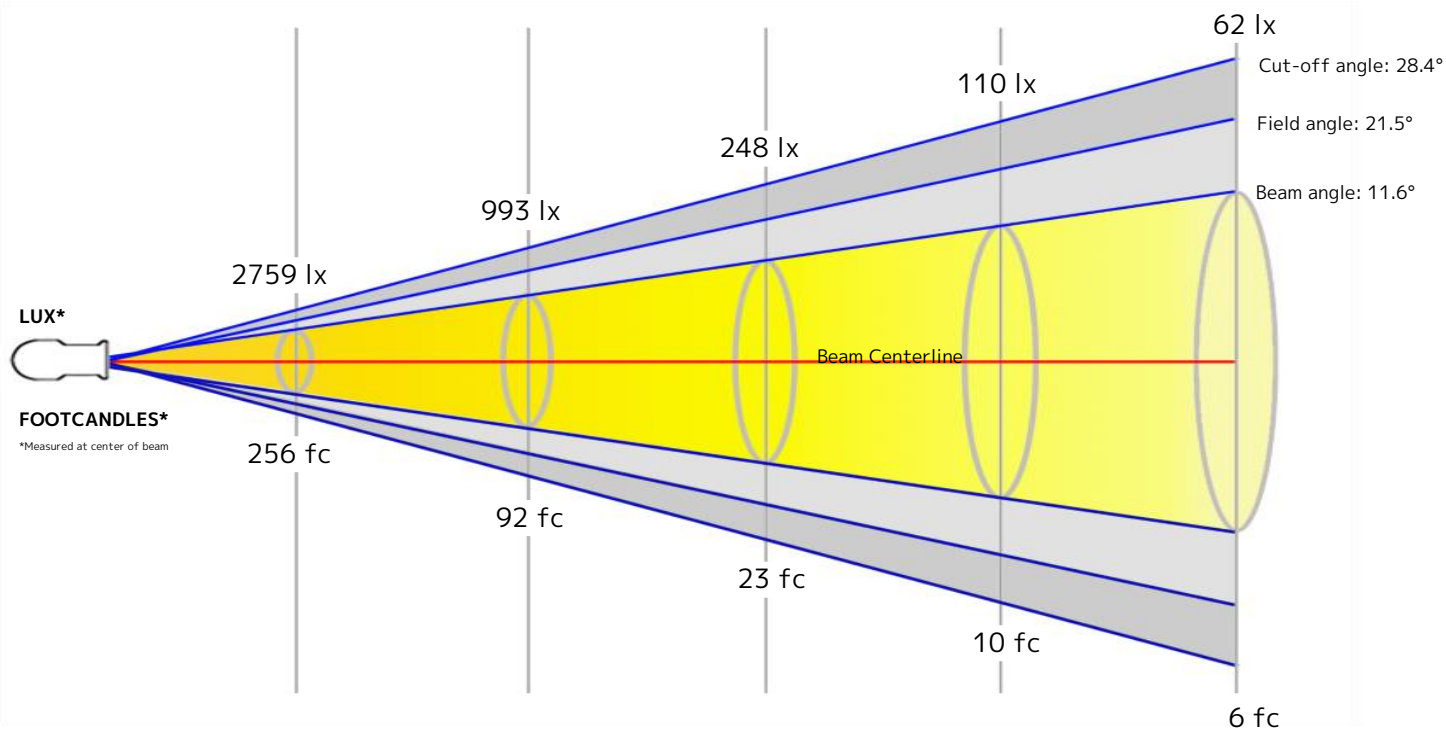
Power: 78.9 W

Supply Voltage: 120 V

Current: 0.663 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3 m	4 m



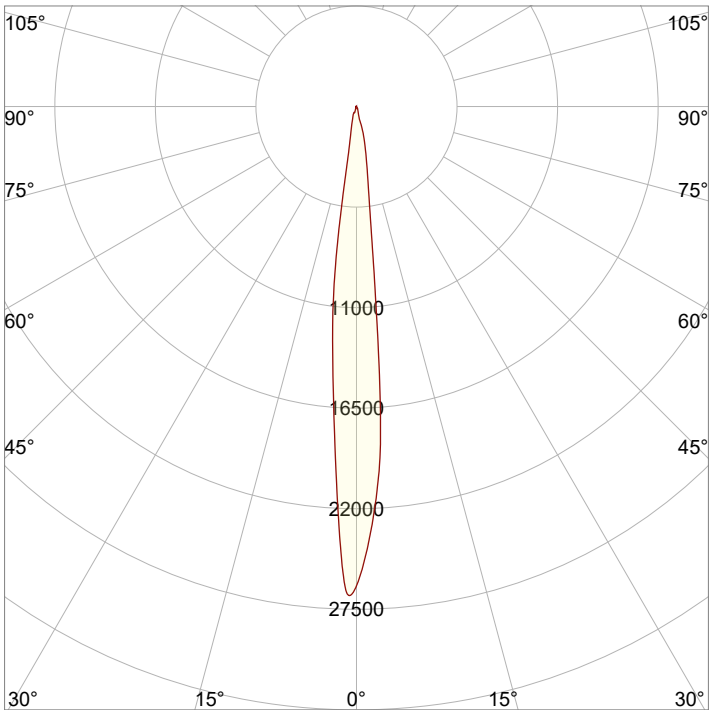
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.3 ft	6.6 ft	10 ft	13.3 ft

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
LX	24835	6209	2759	1552	993	690	507	388	307	248	205	172	147	127	110	97	86	77	69	62
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
FC	2307.2	576.8	256.4	144.2	92.3	64.1	47.1	36.1	28.5	23.1	19.1	16	13.7	11.8	10.3	9	8	7.1	6.4	5.8

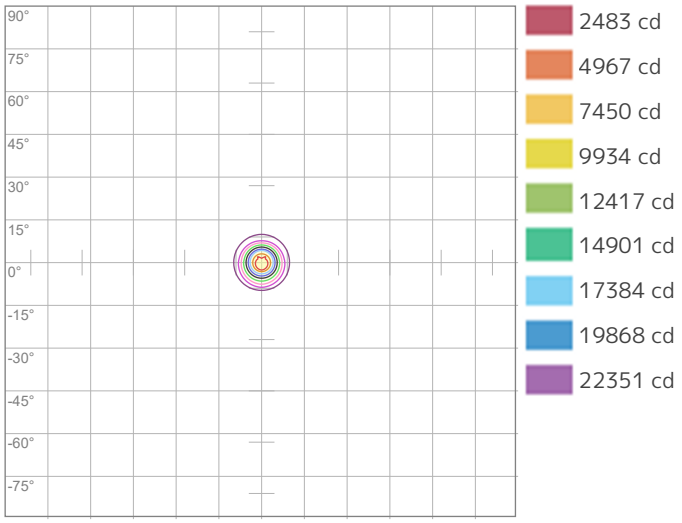
Measurement Date: 9/11/2024

Angular Distribution



Beam Angle - 50%
11.6°
Field Angle - 10%
21.5°
Cutoff Angle - 2.5%
28.4°

ISO Diagrams

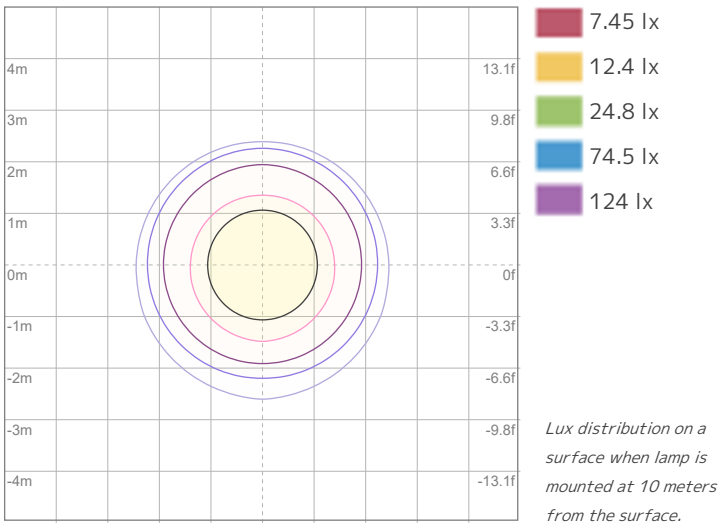


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 24835 cd



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

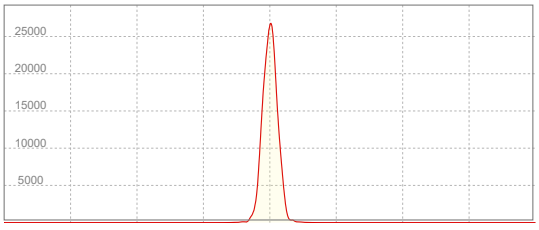
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 248 lx

Linear Distribution



Peak Candela

26562 cd

Calculate Center Beam Intensities

lux = 26562 / distance(m)^2

fc = 26562 / distance(ft)^2

Measurement Date: 9/11/2024

KL FRESNEL 4 FC (Zoom In 3200K)

Key Measurements

Output

Total Lumen Output: 1177 lm

Peak Intensity: 26523 cd

Beam

Beam Angle (50%): 11.7°

Field Angle (10%): 20.2°

Cutoff Angle (2.5%): 28.5°

Color

Color Temperature: 3213 K

CRI: 91.0

TLCI: 88

TM30 R_F: 90.4

TM30 R_g: 100.7

Power Details

Efficacy: 15 Lumen/Watt

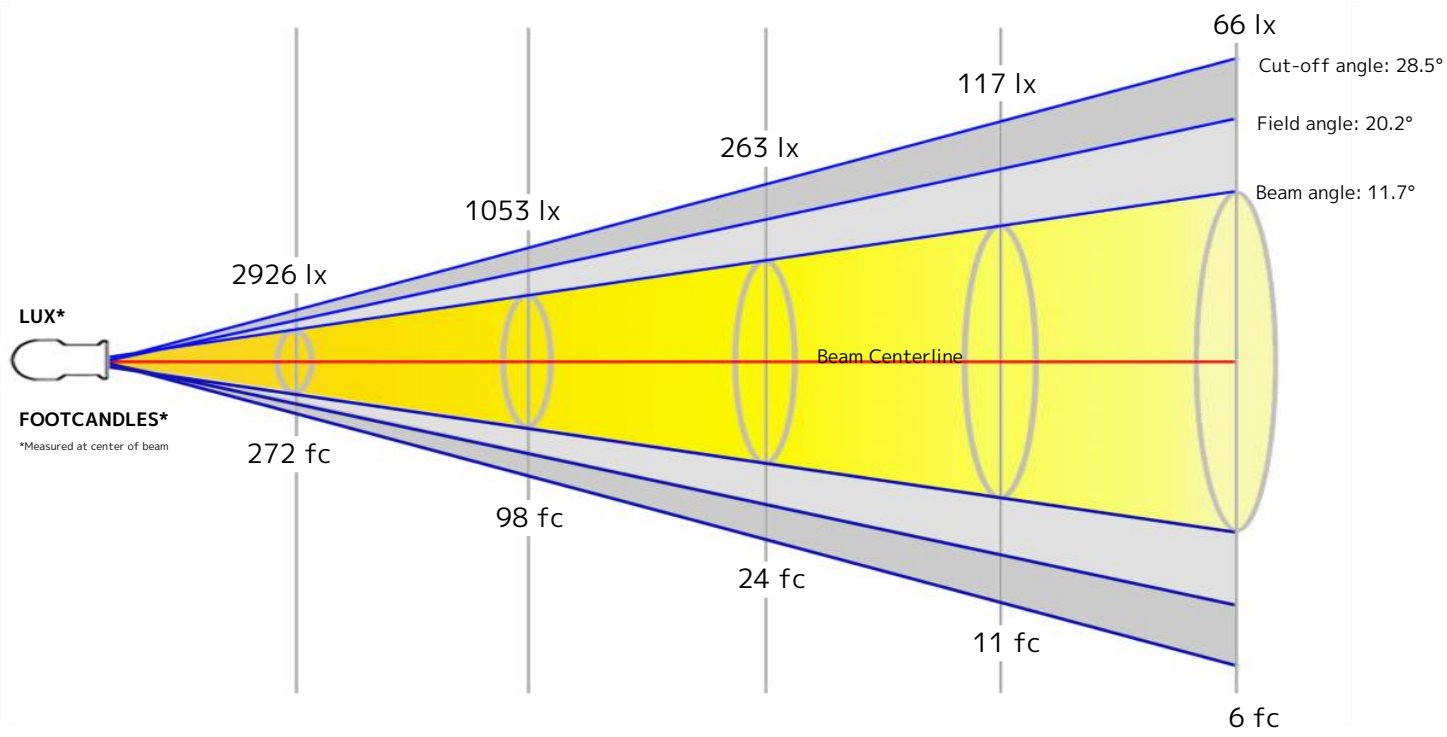
Power: 77.5 W

Supply Voltage: 120 V

Current: 0.655 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3.1 m	4.1 m



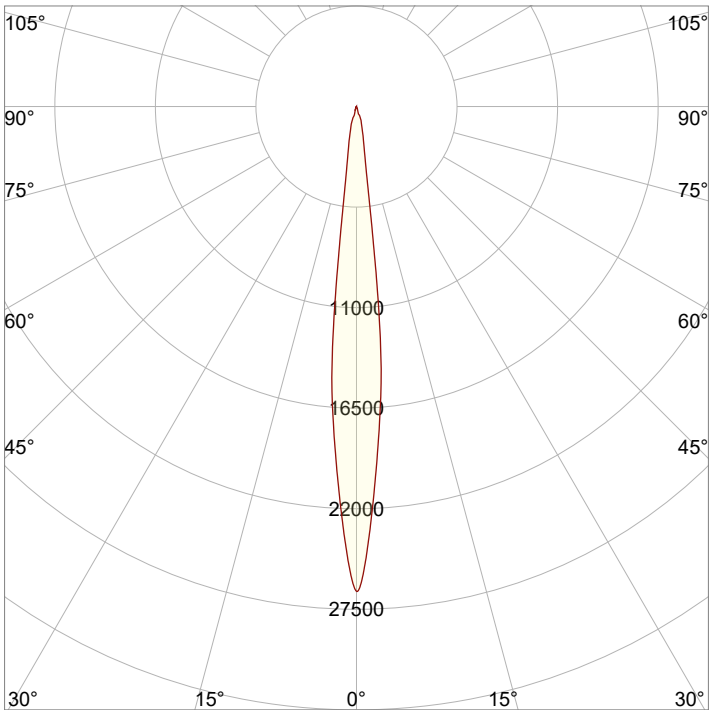
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.4 ft	6.7 ft	10.1 ft	13.4 ft

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
LX	26337	6584	2926	1646	1053	732	537	412	325	263	218	183	156	134	117	103	91	81	73	66
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
FC	2446.8	611.7	271.9	152.9	97.9	68	49.9	38.2	30.2	24.5	20.2	17	14.5	12.5	10.9	9.6	8.5	7.6	6.8	6.1

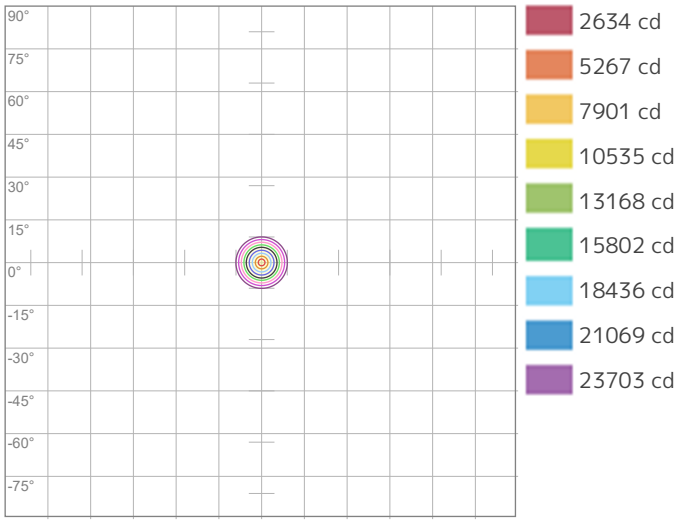
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
11.7°
Field Angle - 10%
20.2°
Cutoff Angle - 2.5%
28.5°

ISO Diagrams

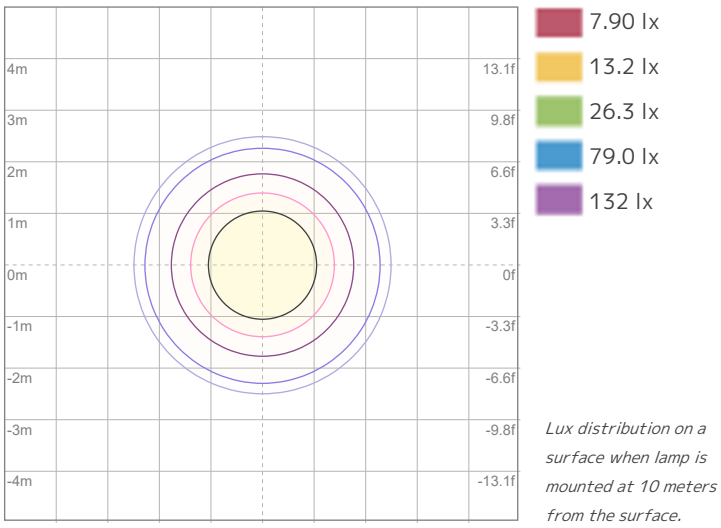


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 26337 cd



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

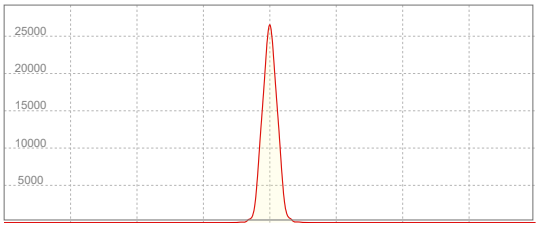
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 263 lx

Linear Distribution



Peak Candela

26523 cd

Calculate Center Beam Intensities

lux = 26523 / distance(m)^2

fc = 26523 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom In 3200K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1174 lm

Peak Intensity: 26506 cd

Beam

Beam Angle (50%): 11.7°

Field Angle (10%): 20°

Cutoff Angle (2.5%): 28.5°

Color

Color Temperature: 3223 K

CRI: 91.9

TLCI: 89

TM30 R_F: 90.9

TM30 R_g: 101.1

Power Details

Efficacy: 15 Lumen/Watt

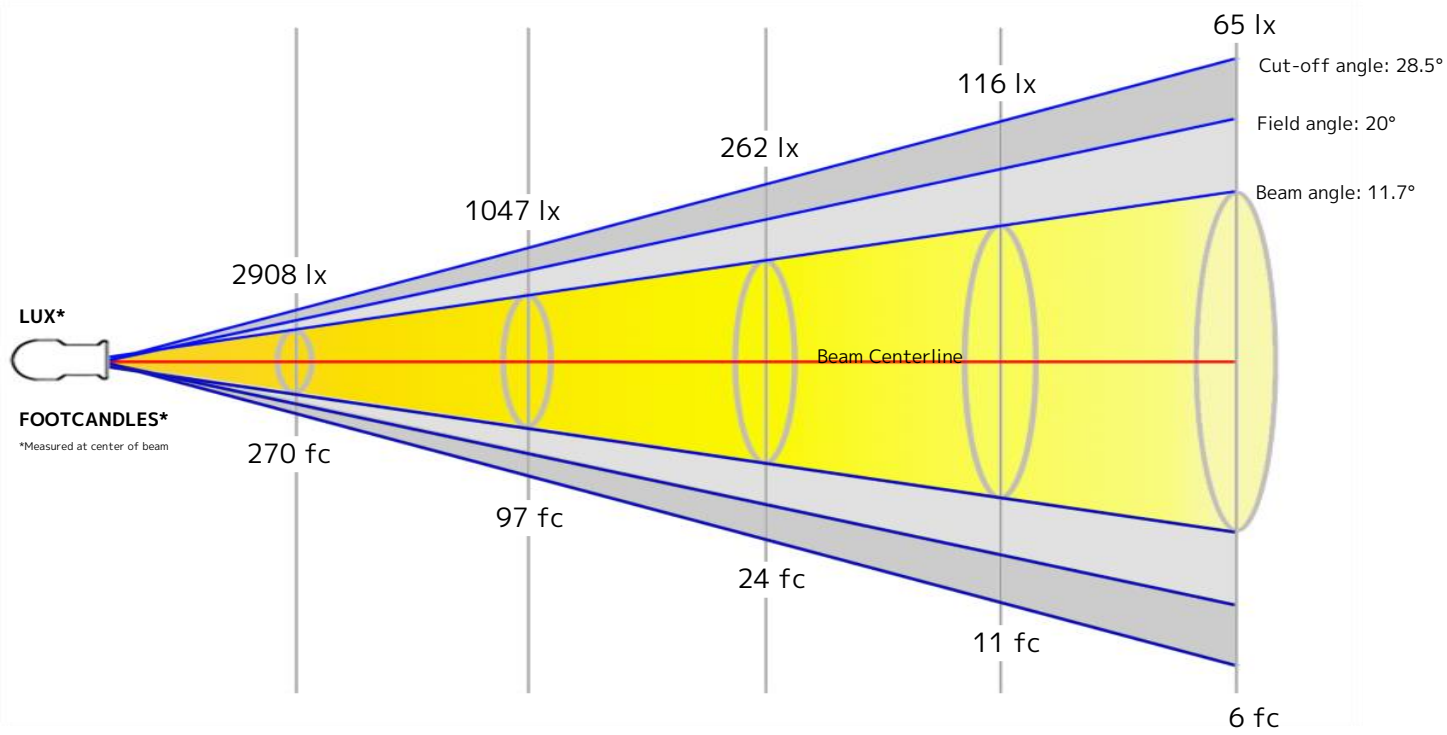
Power: 78.2 W

Supply Voltage: 119 V

Current: 0.667 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3.1 m	4.1 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.4 ft	6.7 ft	10.1 ft	13.4 ft

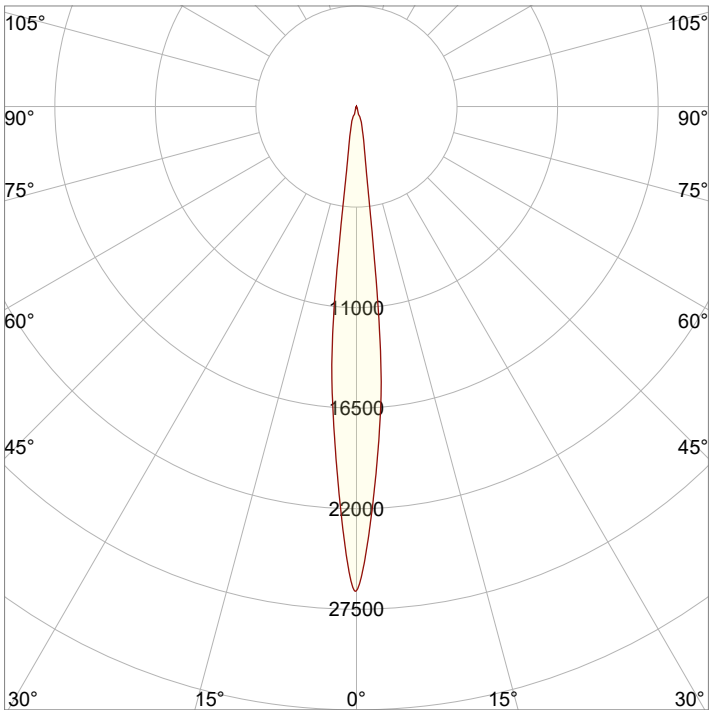
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	26172	6543	2908	1636	1047	727	534	409	323	262	216	182	155	134	116	102	91	81	72	65
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
FC	2431.4	607.9	270.2	152	97.3	67.5	49.6	38	30	24.3	20.1	16.9	14.4	12.4	10.8	9.5	8.4	7.5	6.7	6.1

Measurement Date: 9/16/2024

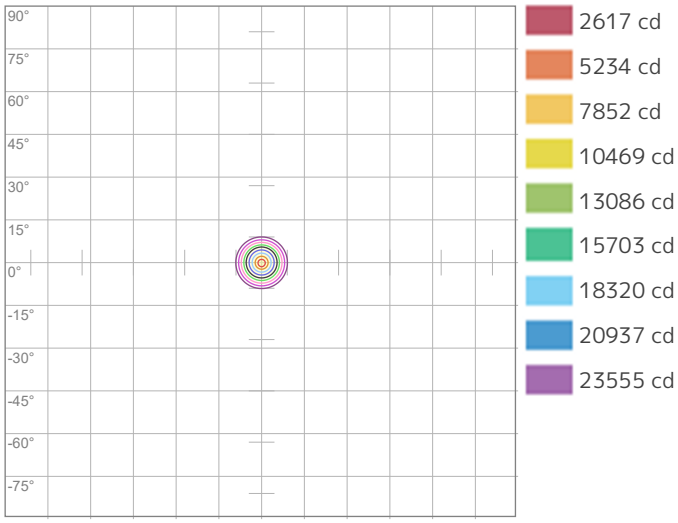
KL FRESNEL 4 FC (Zoom In 3200K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
11.7°
Field Angle - 10%
20°
Cutoff Angle - 2.5%
28.5°

ISO Diagrams

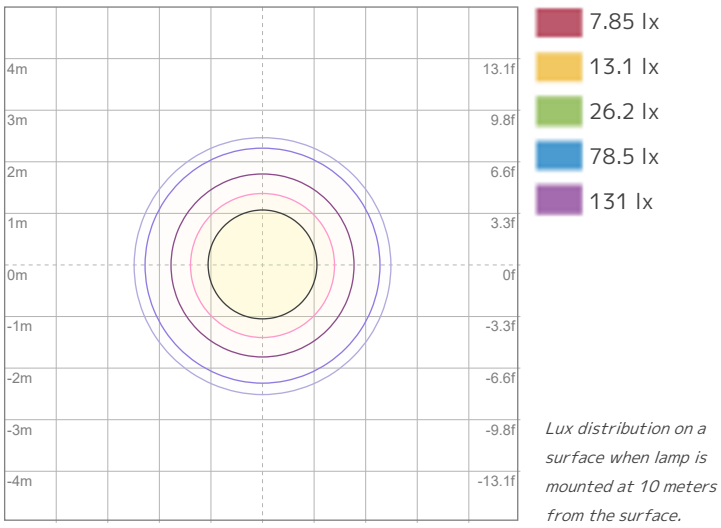


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 26172 cd



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

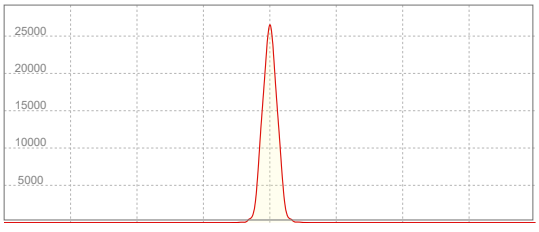
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 262 lx

Linear Distribution



Peak Candela

26506 cd

Calculate Center Beam Intensities

lux = 26506 / distance(m)^2

fc = 26506 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom In 4500K)

Key Measurements

Output

Total Lumen Output: 1289 lm

Peak Intensity: 27542 cd

Beam

Beam Angle (50%): 11.6°

Field Angle (10%): 21.6°

Cutoff Angle (2.5%): 28.5°

Color

Color Temperature: 4512 K

CRI: 89.1

TLCI: 87

TM30 R_F: 87.7

TM30 R_g: 100.5

Power Details

Efficacy: 17 Lumen/Watt

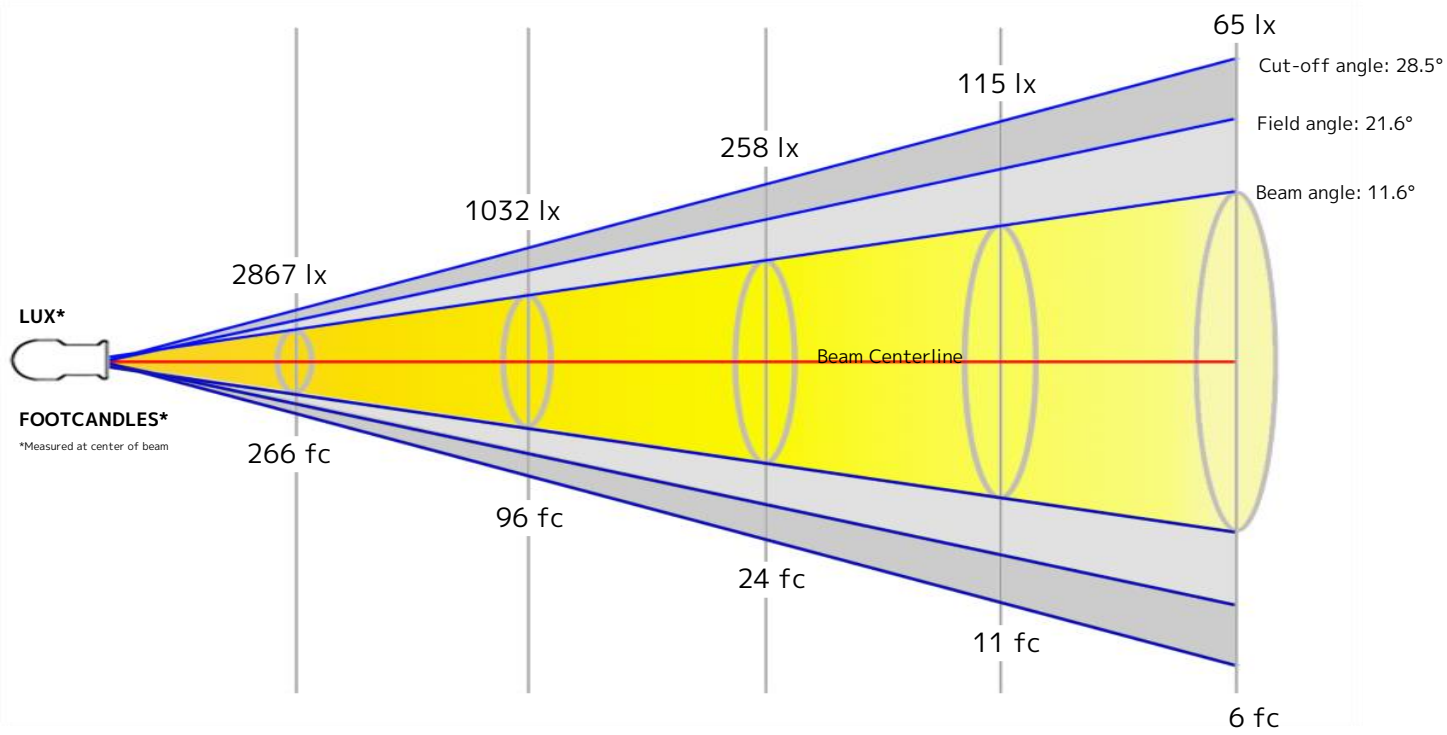
Power: 77.8 W

Supply Voltage: 119 V

Current: 0.659 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3.1 m	4.1 m



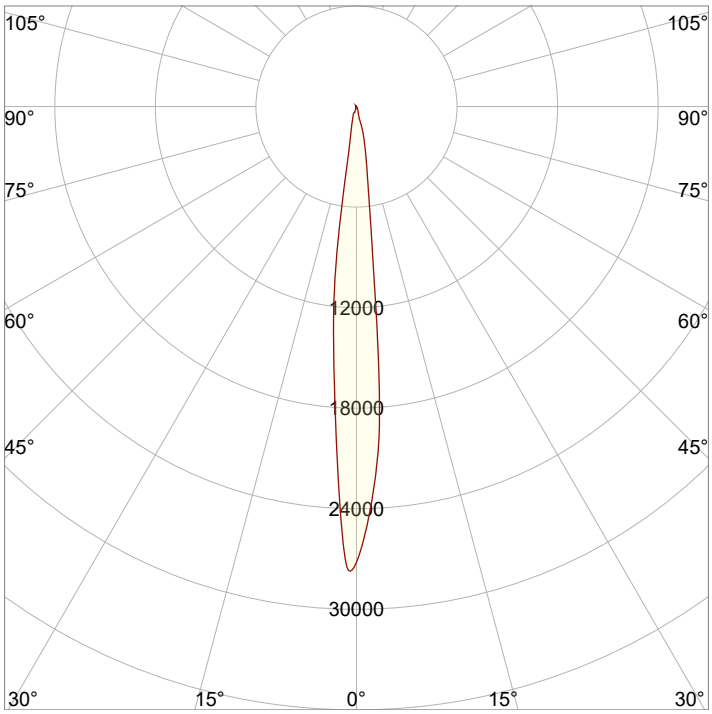
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.3 ft	6.7 ft	10 ft	13.4 ft

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
LX	25802	6450	2867	1613	1032	717	527	403	319	258	213	179	153	132	115	101	89	80	71	65
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
FC	2397.1	599.3	266.3	149.8	95.9	66.6	48.9	37.5	29.6	24	19.8	16.6	14.2	12.2	10.7	9.4	8.3	7.4	6.6	6

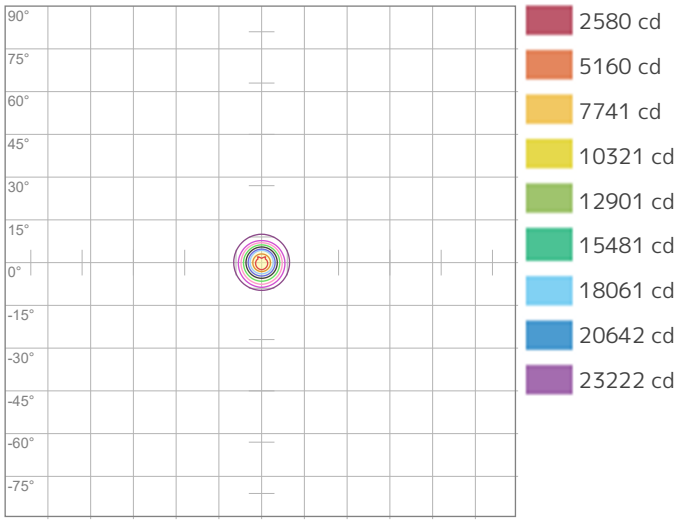
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
11.6°
Field Angle - 10%
21.6°
Cutoff Angle - 2.5%
28.5°

ISO Diagrams

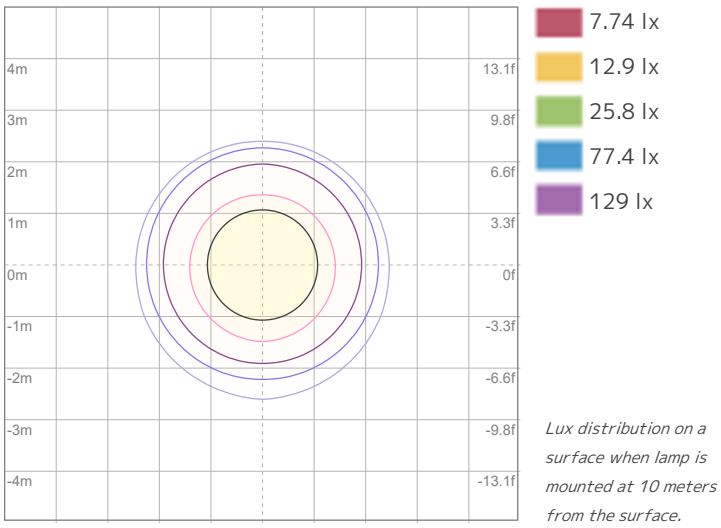


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 25802 cd



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

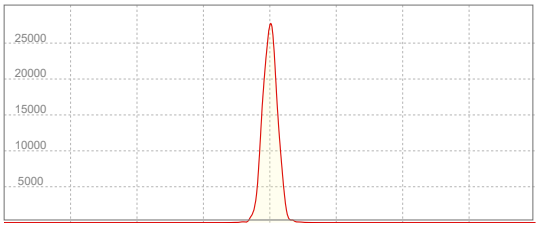
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 258 lx

Linear Distribution



Peak Candela

27542 cd

Calculate Center Beam Intensities

lux = 27542 / distance(m)^2

fc = 27542 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom In 4500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1237 lm

Peak Intensity: 26779 cd

Beam

Beam Angle (50%): 11.6°

Field Angle (10%): 21.5°

Cutoff Angle (2.5%): 28.3°

Color

Color Temperature: 4470 K

CRI: 91.3

TLCI: 89

TM30 R_F: 89.2

TM30 R_g: 101.7

Power Details

Efficacy: 16 Lumen/Watt

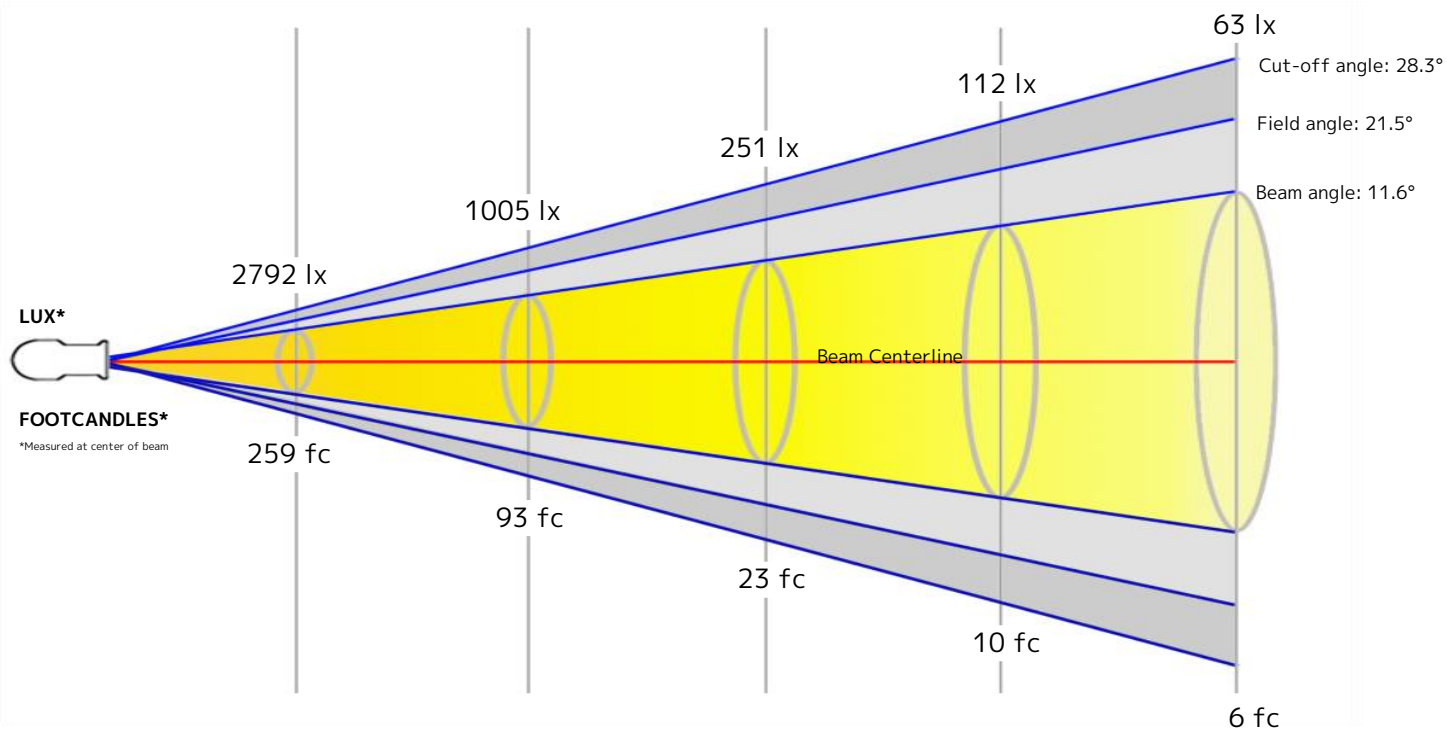
Power: 77.0 W

Supply Voltage: 118 V

Current: 0.658 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3 m	4.1 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.3 ft	6.7 ft	10 ft	13.3 ft

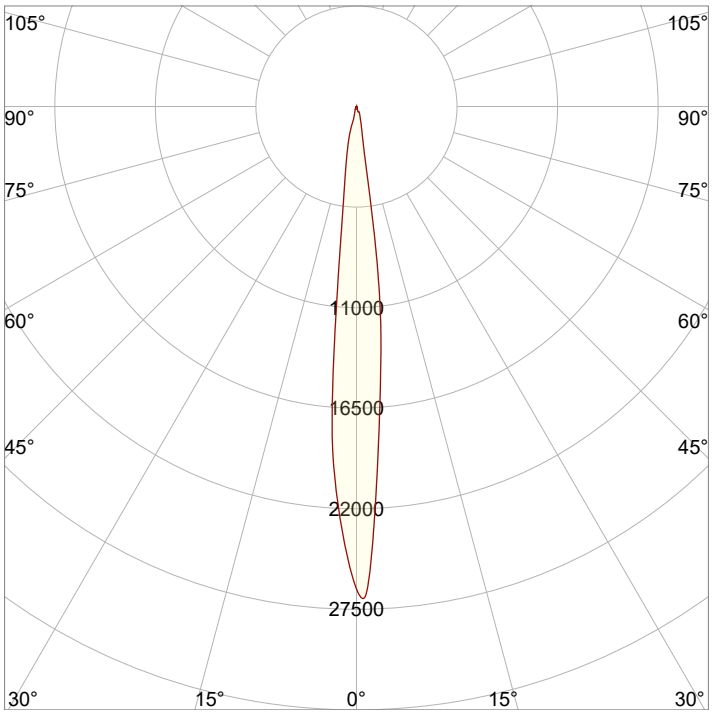
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	25125	6281	2792	1570	1005	698	513	393	310	251	208	174	149	128	112	98	87	78	70	63
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
FC	2334.2	583.6	259.4	145.9	93.4	64.8	47.6	36.5	28.8	23.3	19.3	16.2	13.8	11.9	10.4	9.1	8.1	7.2	6.5	5.8

Measurement Date: 9/16/2024

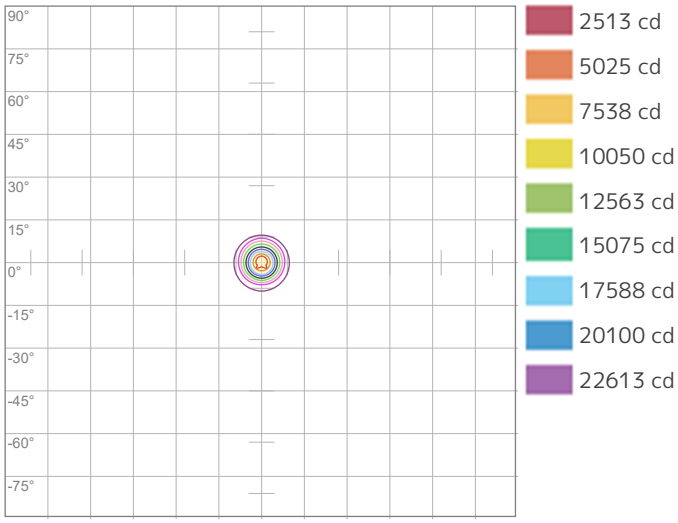
KL FRESNEL 4 FC (Zoom In 4500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
11.6°
Field Angle - 10%
21.5°
Cutoff Angle - 2.5%
28.3°

ISO Diagrams

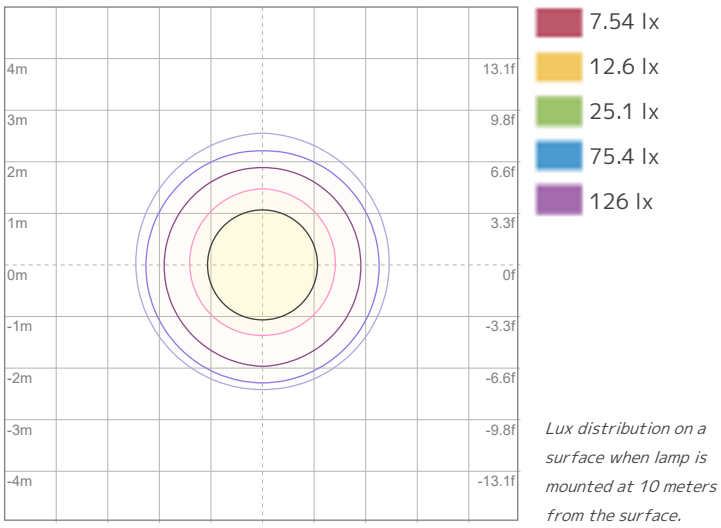


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 25125 cd



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

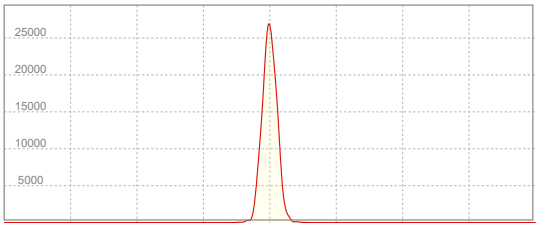
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 251 lx

Linear Distribution



Peak Candela

26779 cd

Calculate Center Beam Intensities

lux = 26779 / distance(m)^2

fc = 26779 / distance(ft)^2

Measurement Date: 9/16/2024

Key Measurements

Output

Total Lumen Output: 1202 lm

Peak Intensity: 26634 cd

Beam

Beam Angle (50%): 11.7°

Field Angle (10%): 20.6°

Cutoff Angle (2.5%): 28.6°

Color

Color Temperature: 6483 K

CRI: 90.7

TLCI: 91

TM30 R_F: 88.0

TM30 R_g: 101.3

Power Details

Efficacy: 16 Lumen/Watt

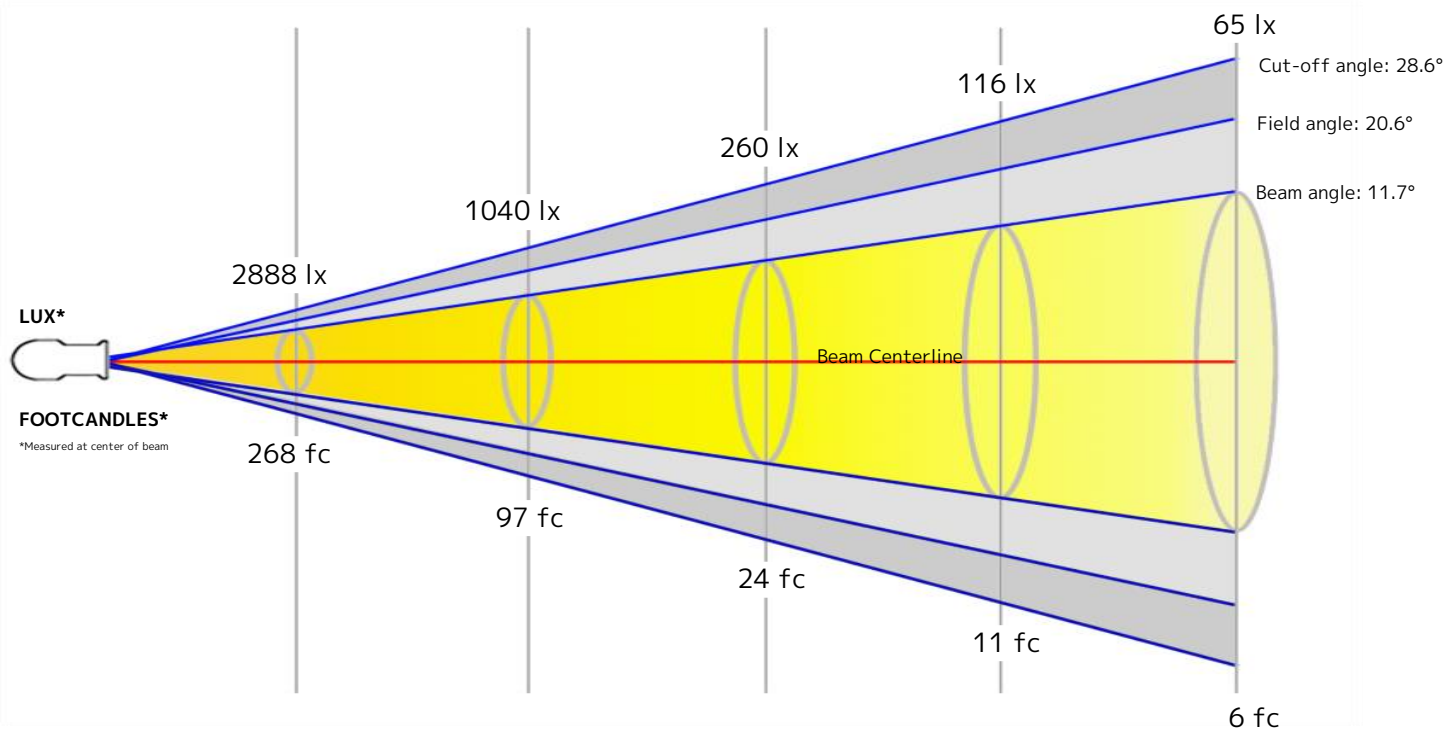
Power: 77.4 W

Supply Voltage: 119 V

Current: 0.657 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3.1 m	4.1 m



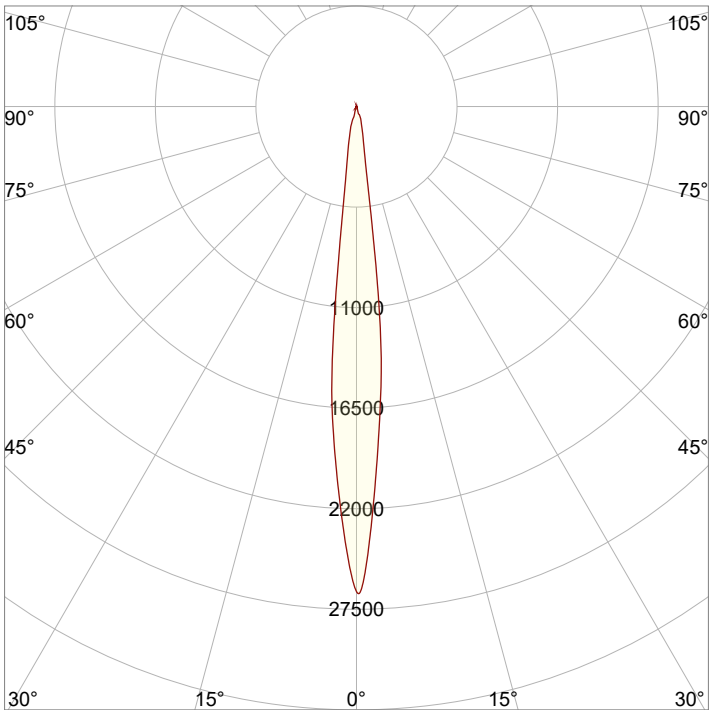
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.4 ft	6.7 ft	10.1 ft	13.4 ft

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
LX	25996	6499	2888	1625	1040	722	531	406	321	260	215	181	154	133	116	102	90	80	72	65
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
FC	2415.1	603.8	268.3	150.9	96.6	67.1	49.3	37.7	29.8	24.2	20	16.8	14.3	12.3	10.7	9.4	8.4	7.5	6.7	6

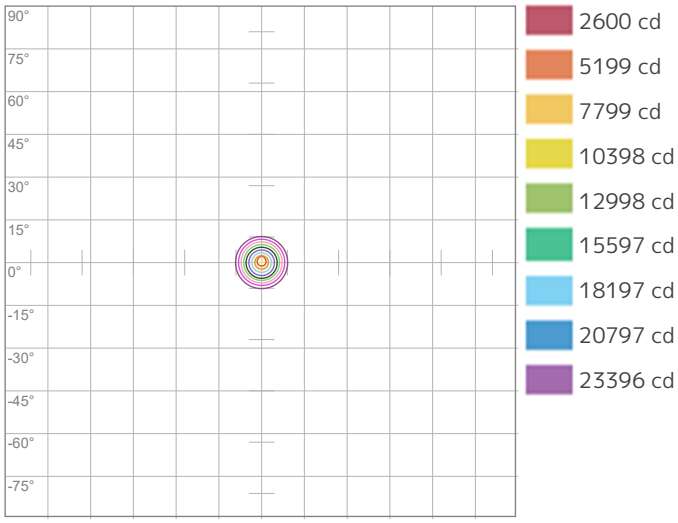
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
11.7°
Field Angle - 10%
20.6°
Cutoff Angle - 2.5%
28.6°

ISO Diagrams

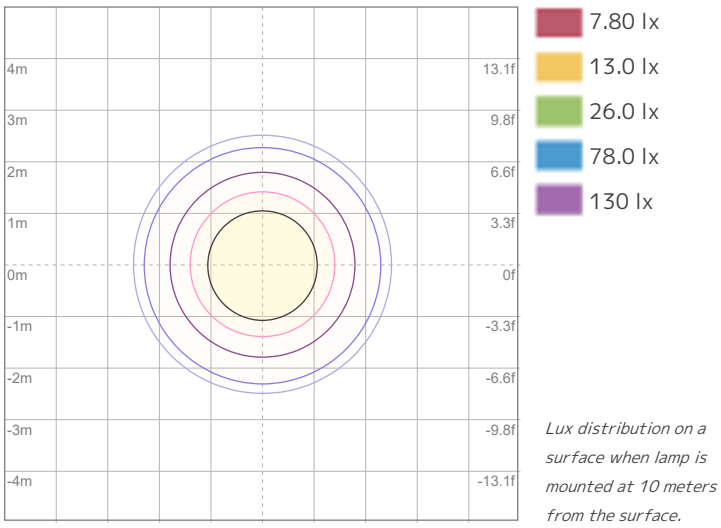


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 25996 cd



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

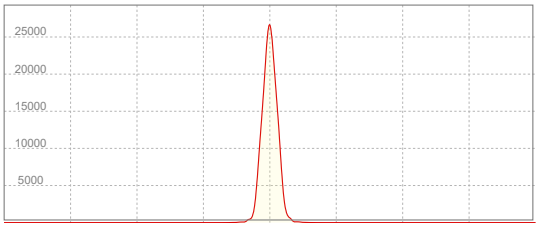
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 260 lx

Linear Distribution



Peak Candela

26634 cd

Calculate Center Beam Intensities

lux = 26634 / distance(m)^2

fc = 26634 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom In 6500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1096 lm

Peak Intensity: 24485 cd

Beam

Beam Angle (50%): 11.6°

Field Angle (10%): 20.1°

Cutoff Angle (2.5%): 28.6°

Color

Color Temperature: 6513 K

CRI: 91.3

TLCI: 92

TM30 R_F: 88.5

TM30 R_g: 101.8

Power Details

Efficacy: 16 Lumen/Watt

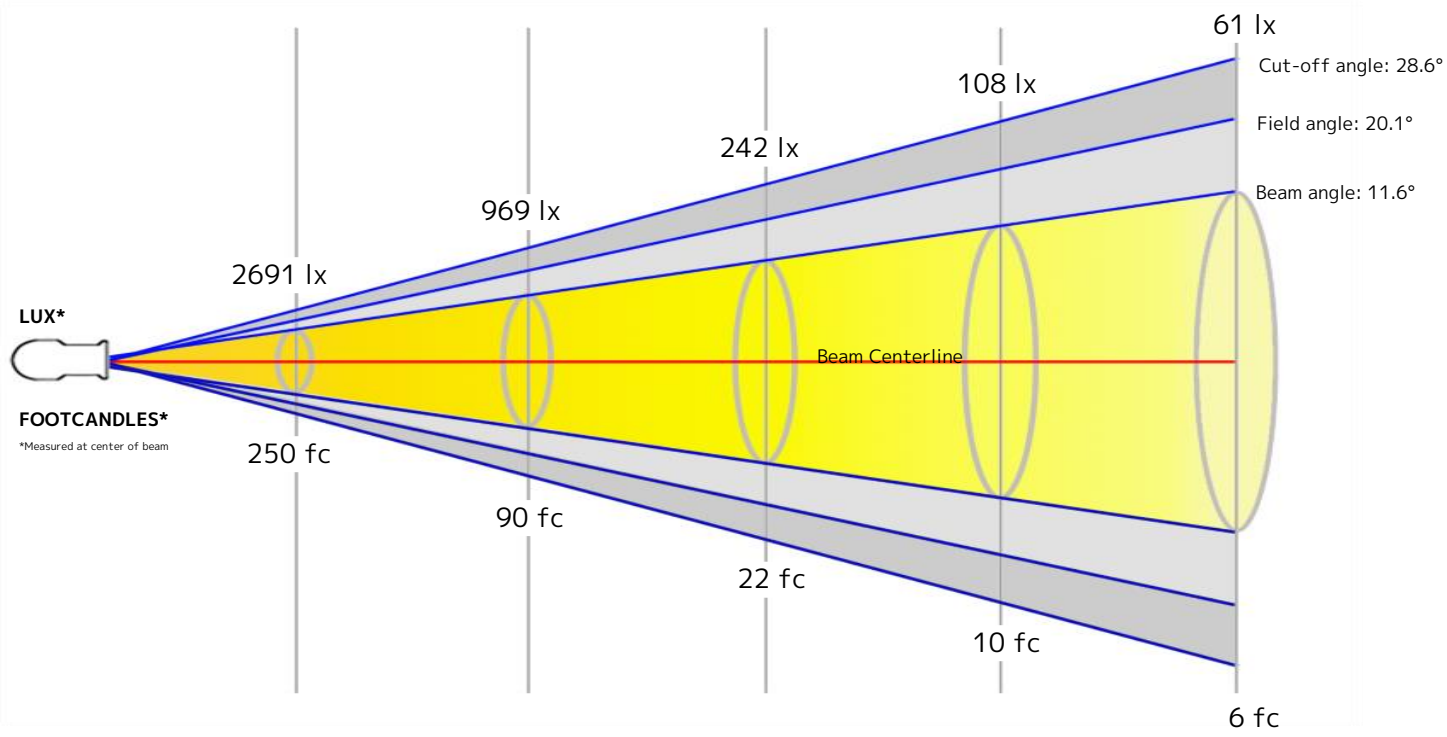
Power: 70.5 W

Supply Voltage: 119 V

Current: 0.602 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3.1 m	4.1 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.3 ft	6.7 ft	10 ft	13.4 ft

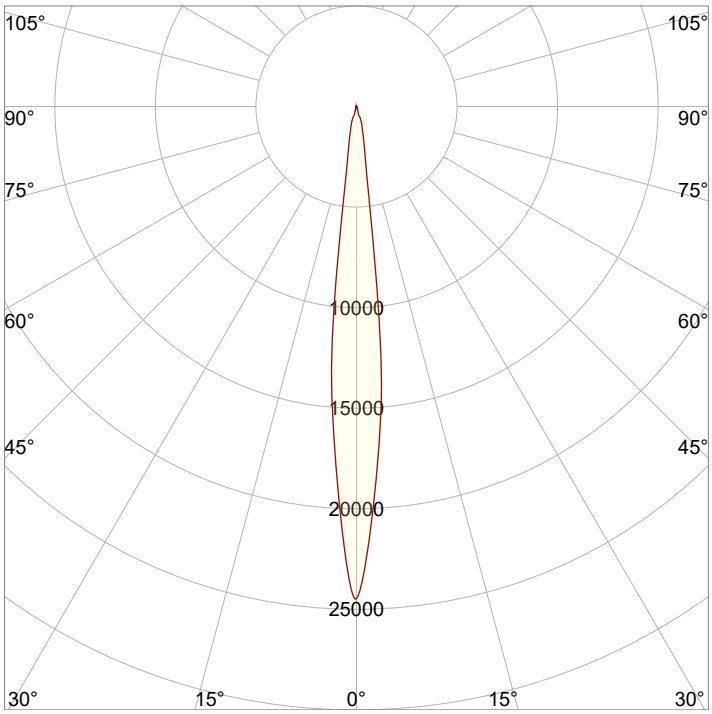
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	24216	6054	2691	1513	969	673	494	378	299	242	200	168	143	124	108	95	84	75	67	61
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
FC	2249.7	562.4	250	140.6	90	62.5	45.9	35.2	27.8	22.5	18.6	15.6	13.3	11.5	10	8.8	7.8	6.9	6.2	5.6

Measurement Date: 9/16/2024

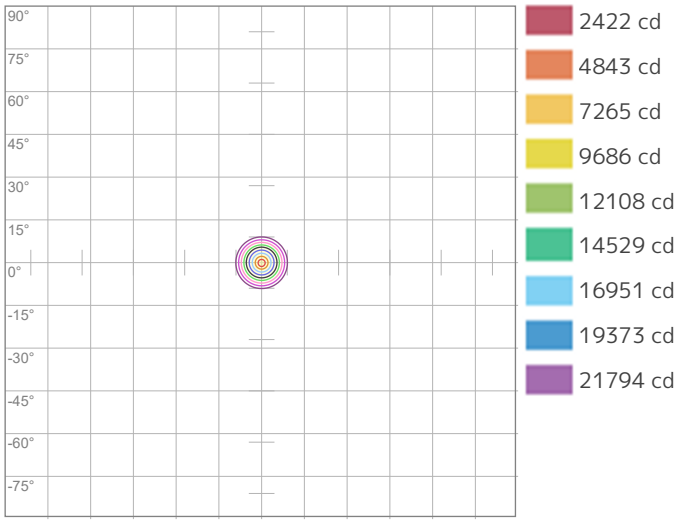
KL FRESNEL 4 FC (Zoom In 6500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
11.6°
Field Angle - 10%
20.1°
Cutoff Angle - 2.5%
28.6°

ISO Diagrams

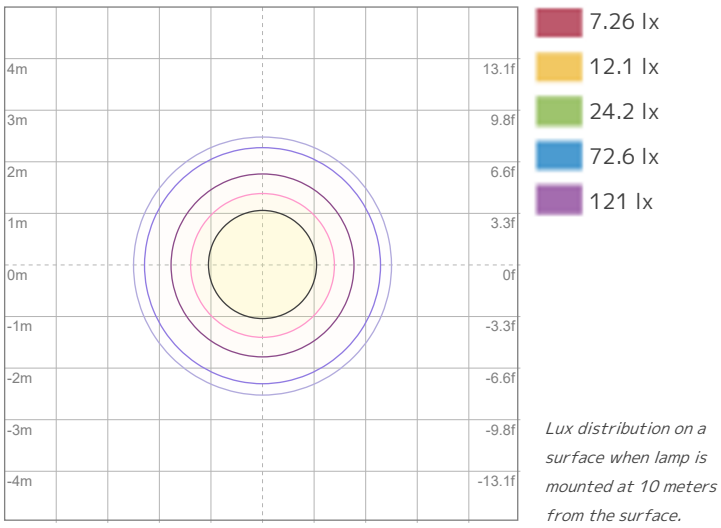


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 24216 cd



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

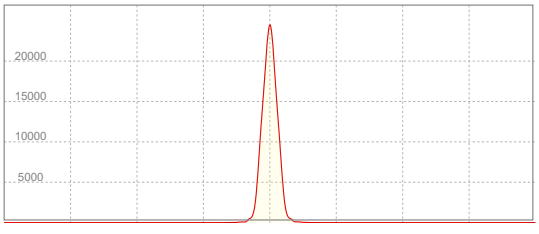
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 242 lx

Linear Distribution



Peak Candela

24485 cd

Calculate Center Beam Intensities

lux = 24485 / distance(m)^2

fc = 24485 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom In 8500K)

Key Measurements

Output

Total Lumen Output: 1295 lm

Peak Intensity: 26392 cd

Beam

Beam Angle (50%): 11.8°

Field Angle (10%): 22.3°

Cutoff Angle (2.5%): 28.1°

Color

Color Temperature: 7619 K

CRI: 81.8

TLCI: 63

TM30 R_F: 79.9

TM30 R_g: 95.2

Power Details

Efficacy: 16 Lumen/Watt

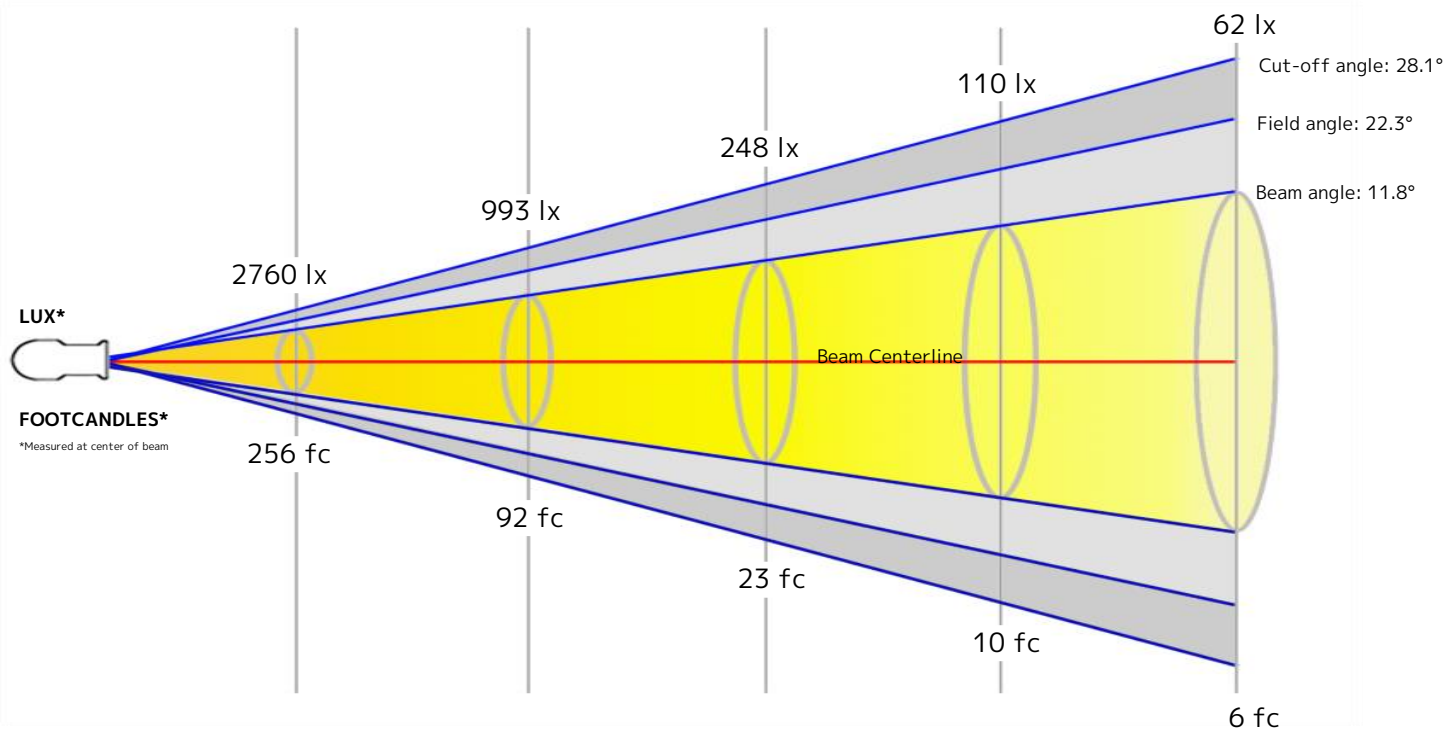
Power: 78.5 W

Supply Voltage: 119 V

Current: 0.665 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2.1 m	3.1 m	4.1 m



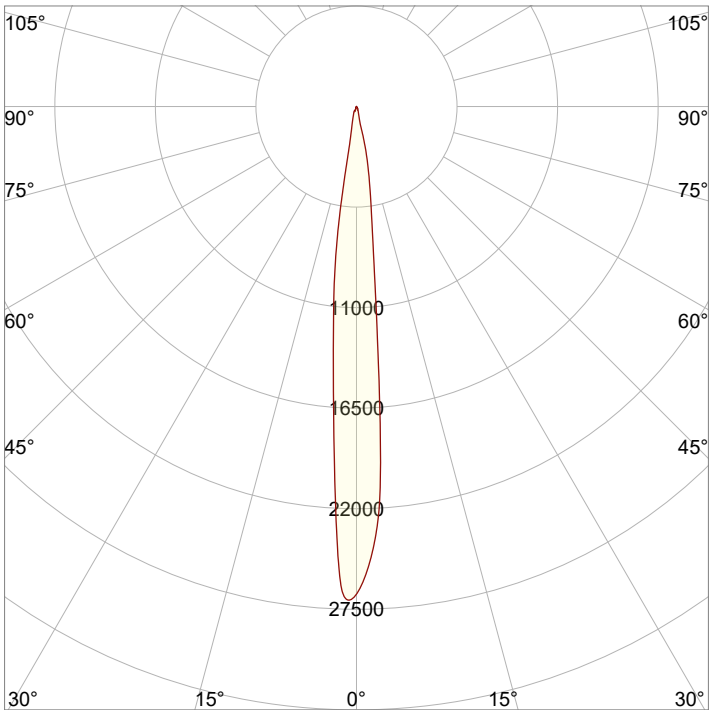
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.4 ft	6.8 ft	10.2 ft	13.6 ft

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
LX	24837	6209	2760	1552	993	690	507	388	307	248	205	172	147	127	110	97	86	77	69	62
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
FC	2307.5	576.9	256.4	144.2	92.3	64.1	47.1	36.1	28.5	23.1	19.1	16	13.7	11.8	10.3	9	8	7.1	6.4	5.8

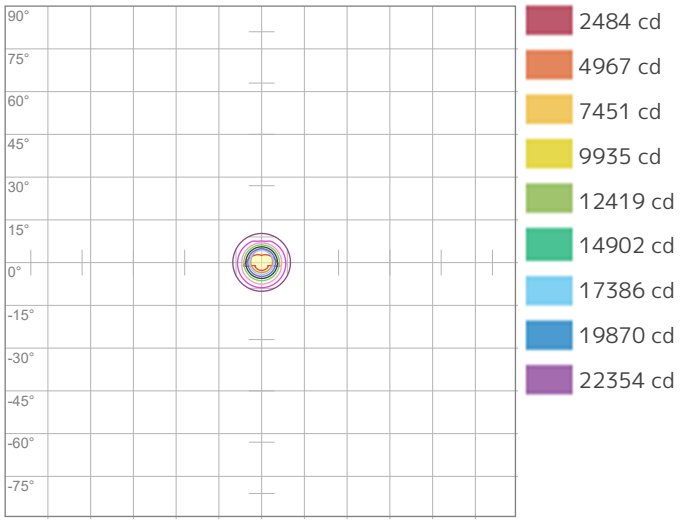
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
11.8°
Field Angle - 10%
22.3°
Cutoff Angle - 2.5%
28.1°

ISO Diagrams

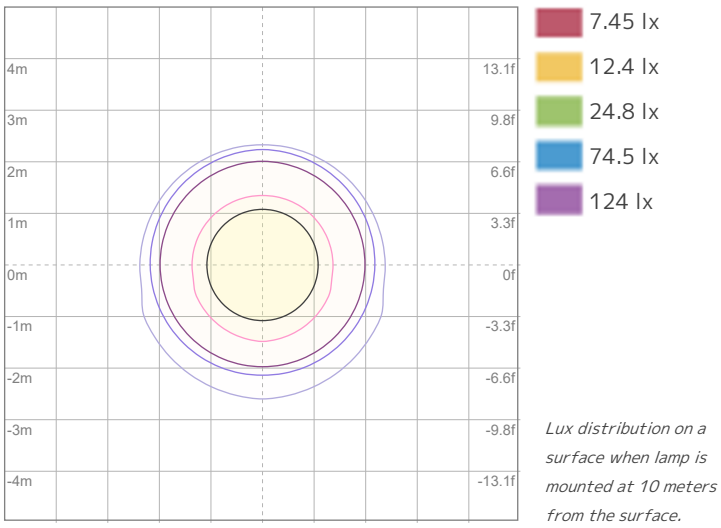


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 24837 cd



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

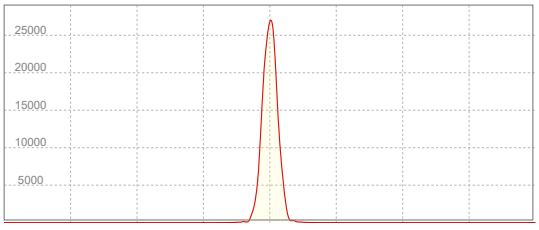
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 248 lx

Linear Distribution



Peak Candela

26392 cd

Calculate Center Beam Intensities

lux = 26392 / distance(m)^2

fc = 26392 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom In 8500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1251 lm

Peak Intensity: 27012 cd

Beam

Beam Angle (50%): 11.6°

Field Angle (10%): 21.6°

Cutoff Angle (2.5%): 28.3°

Color

Color Temperature: 7980 K

CRI: 89.3

TLCI: 90

TM30 R_F: 86.4

TM30 R_g: 99.6

Power Details

Efficacy: 16 Lumen/Watt

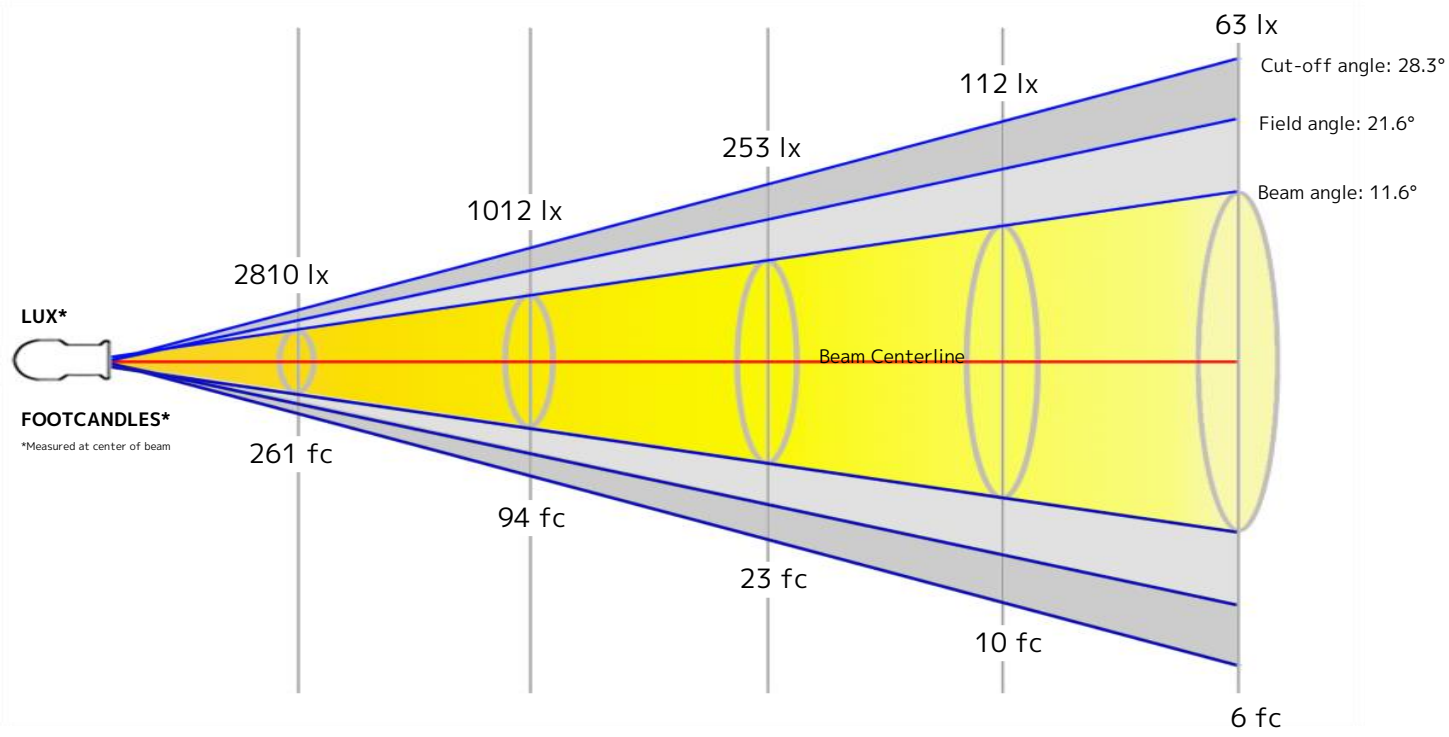
Power: 75.9 W

Supply Voltage: 119 V

Current: 0.645 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	0.6 m	1 m	2 m	3 m	4.1 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	2 ft	3.3 ft	6.7 ft	10 ft	13.3 ft

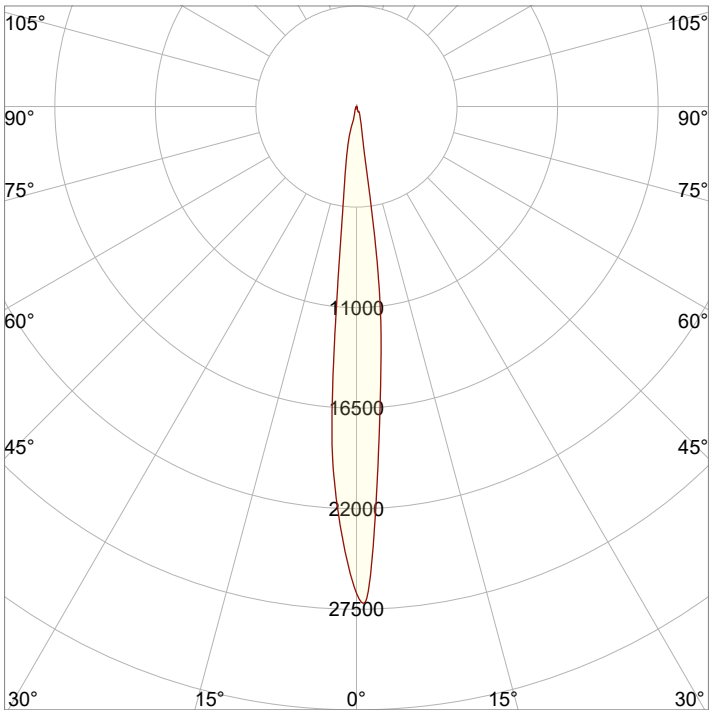
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	25293	6323	2810	1581	1012	703	516	395	312	253	209	176	150	129	112	99	88	78	70	63
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
FC	2349.8	587.5	261.1	146.9	94	65.3	48	36.7	29	23.5	19.4	16.3	13.9	12	10.4	9.2	8.1	7.3	6.5	5.9

Measurement Date: 9/16/2024

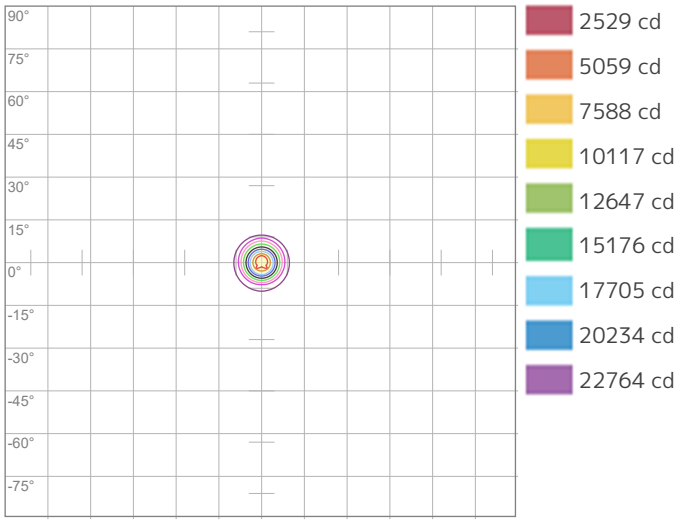
KL FRESNEL 4 FC (Zoom In 8500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
11.6°
Field Angle - 10%
21.6°
Cutoff Angle - 2.5%
28.3°

ISO Diagrams

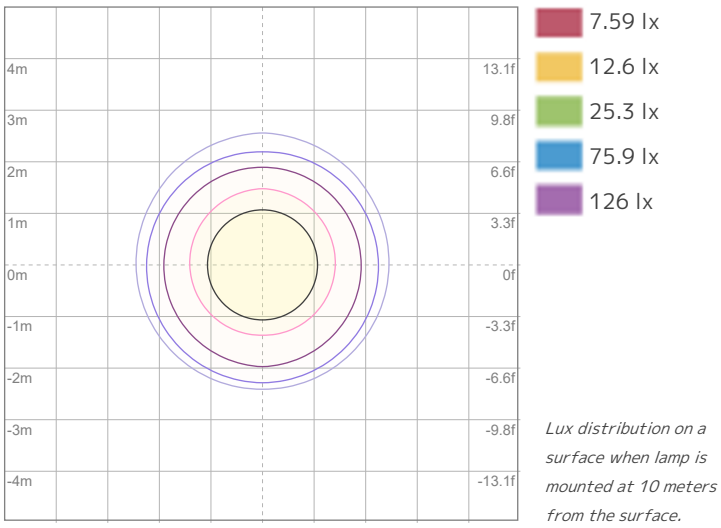


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 25293 cd



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

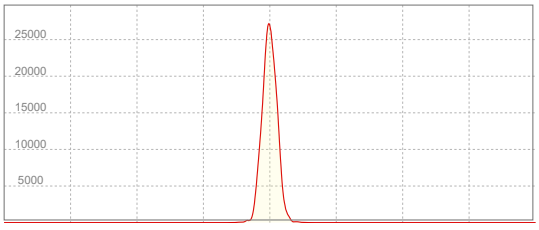
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 253 lx

Linear Distribution



Peak Candela

27012 cd

Calculate Center Beam Intensities

lux = 27012 / distance(m)^2

fc = 27012 / distance(ft)^2

Measurement Date: 9/16/2024

Key Measurements

Output

Total Lumen Output: 1947 lm

Peak Intensity: 8234 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45.1°

Cutoff Angle (2.5%): 52.1°

Color

Color Temperature: 5913 K

CRI: 92.0

TLCI: 92

TM30 R_F: 89.4

TM30 R_g: 102.7

Power Details

Efficacy: 25 Lumen/Watt

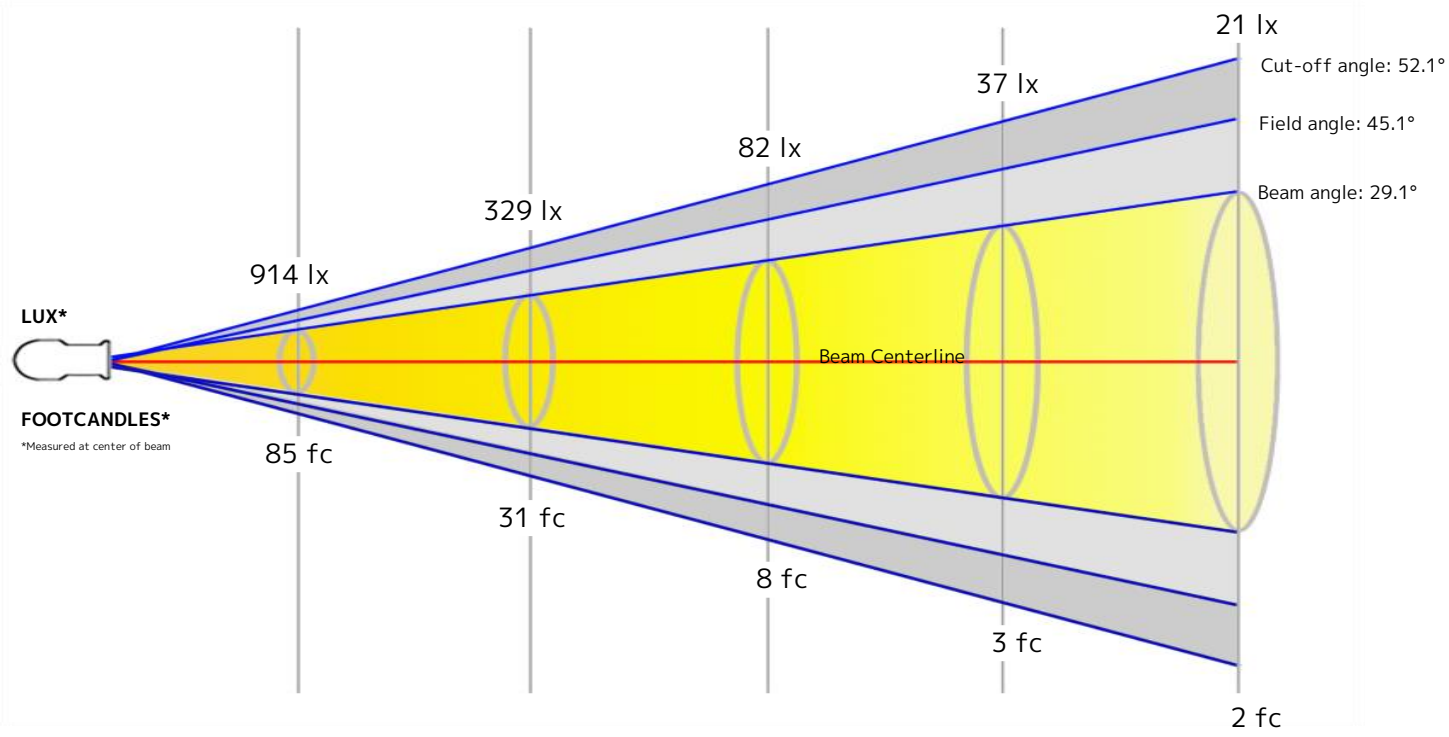
Power: 78.0 W

Supply Voltage: 120 V

Current: 0.655 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



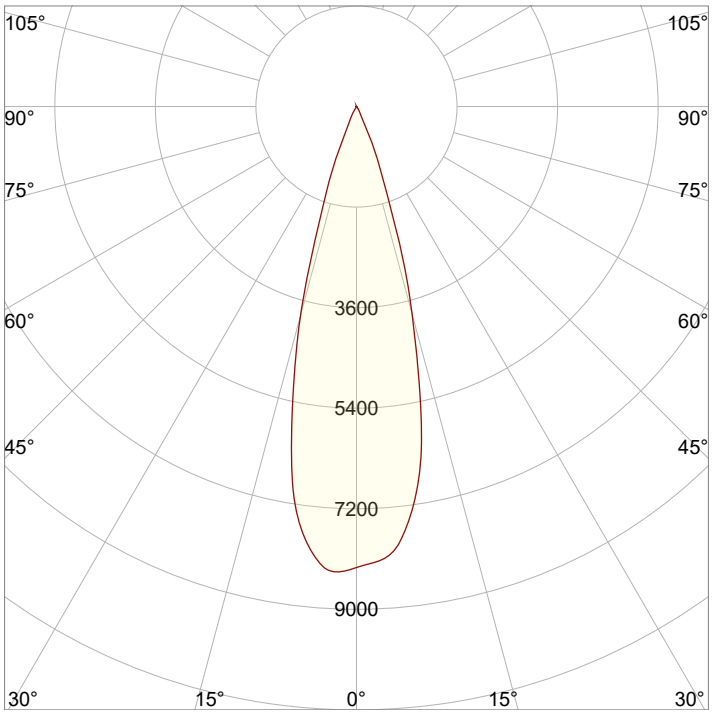
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.6 ft	34.1 ft

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
LX	8223	2056	914	514	329	228	168	128	102	82	68	57	49	42	37	32	28	25	23	21
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
FC	764	191	84.9	47.7	30.6	21.2	15.6	11.9	9.4	7.6	6.3	5.3	4.5	3.9	3.4	3	2.6	2.4	2.1	1.9

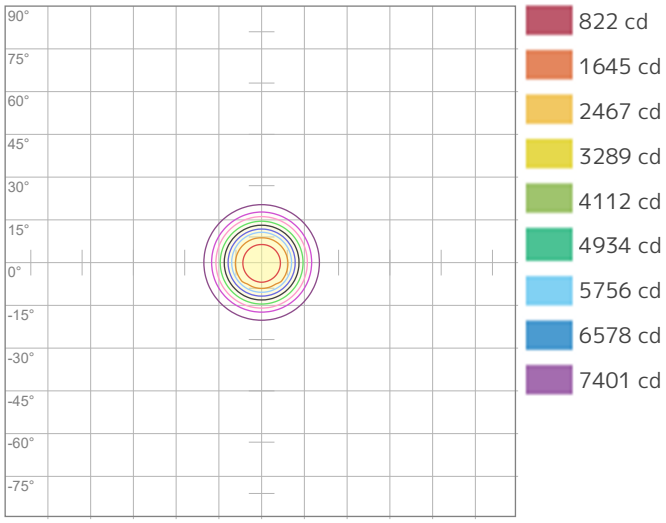
Measurement Date: 9/11/2024

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45.1°
Cutoff Angle - 2.5%
52.1°

ISO Diagrams

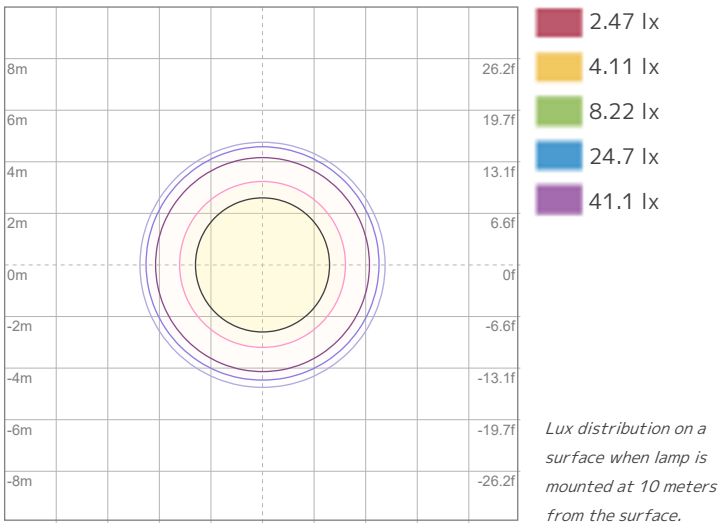


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8223 cd



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

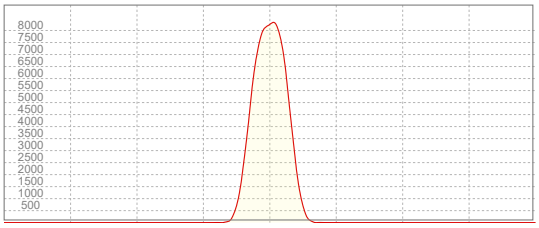
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 82.2 lx

Linear Distribution



Peak Candela

8234 cd

Calculate Center Beam Intensities

lux = 8234 / distance(m)^2

fc = 8234 / distance(ft)^2

Measurement Date: 9/11/2024

KL FRESNEL 4 FC (Zoom 50 2400K)

Key Measurements

Output

Total Lumen Output: 1737 lm

Peak Intensity: 7347 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45.1°

Cutoff Angle (2.5%): 52.4°

Color

Color Temperature: 2420 K

CRI: 93.0

TLCI: 86

TM30 R_F: 92.7

TM30 R_g: 99.1

Power Details

Efficacy: 22 Lumen/Watt

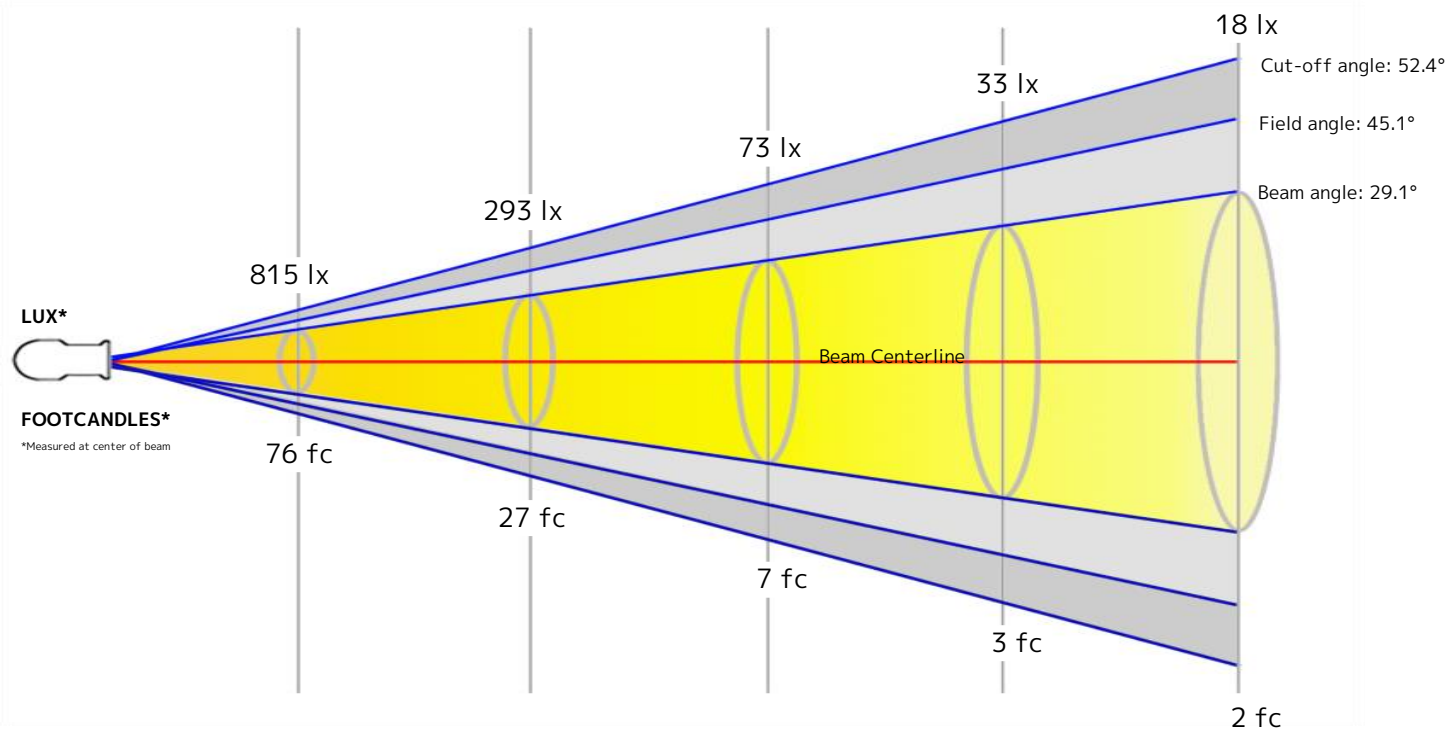
Power: 78.9 W

Supply Voltage: 120 V

Current: 0.662 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



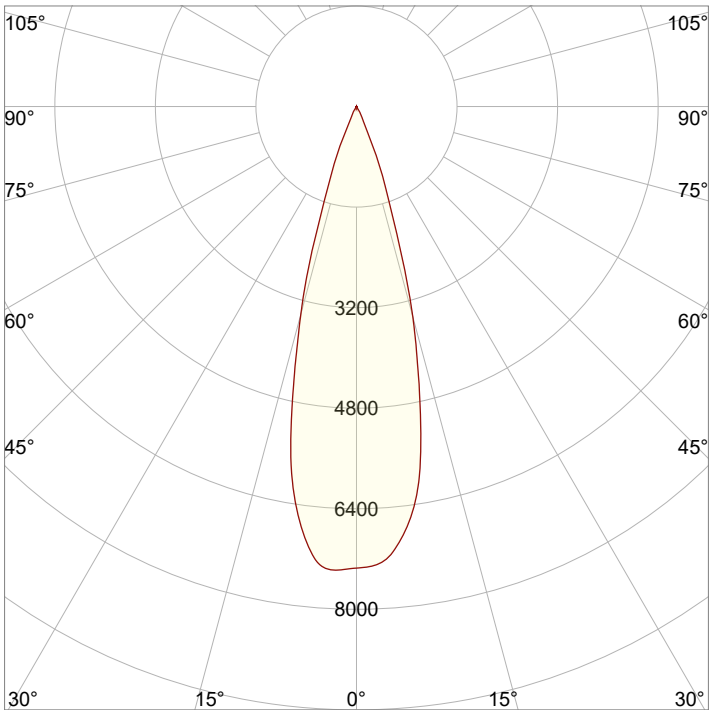
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34 ft

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
LX	7332	1833	815	458	293	204	150	115	91	73	61	51	43	37	33	29	25	23	20	18
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
FC	681.1	170.3	75.7	42.6	27.2	18.9	13.9	10.6	8.4	6.8	5.6	4.7	4	3.5	3	2.7	2.4	2.1	1.9	1.7

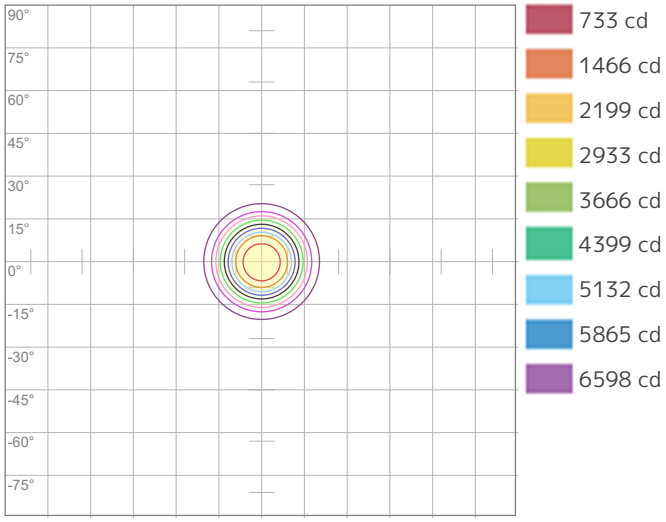
Measurement Date: 9/12/2024

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45.1°
Cutoff Angle - 2.5%
52.4°

ISO Diagrams

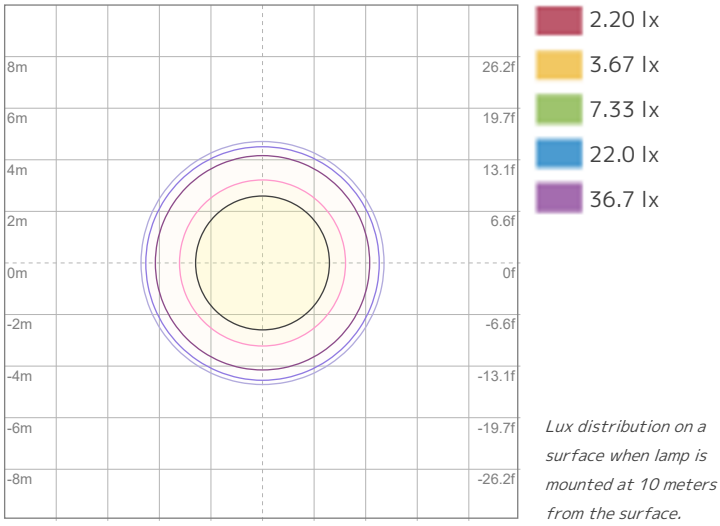


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 7332 cd



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

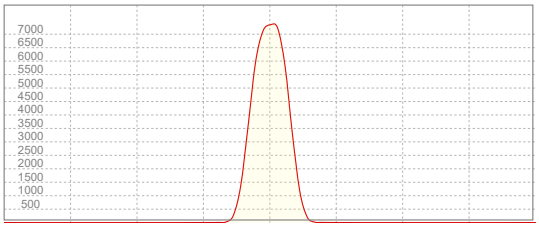
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 73.3 lx

Linear Distribution



Peak Candela

7347 cd

Calculate Center Beam Intensities

lux = 7347 / distance(m)^2

fc = 7347 / distance(ft)^2

Measurement Date: 9/12/2024

KL FRESNEL 4 FC (Zoom 50 2400K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1733 lm

Peak Intensity: 7313 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45.1°

Cutoff Angle (2.5%): 52.1°

Color

Color Temperature: 2448 K

CRI: 94.2

TLCI: 87

TM30 R_F: 93.4

TM30 R_g: 99.6

Power Details

Efficacy: 22 Lumen/Watt

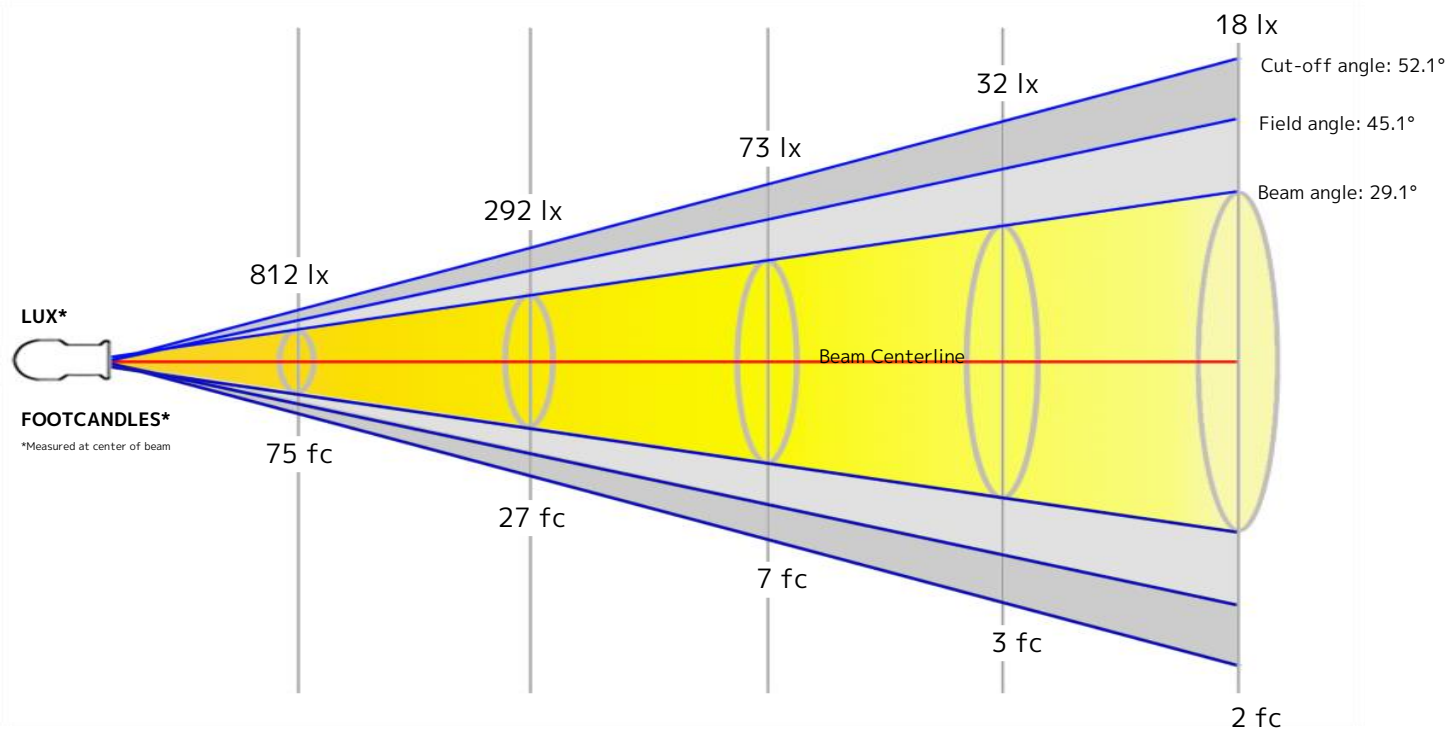
Power: 79.3 W

Supply Voltage: 119 V

Current: 0.671 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34 ft

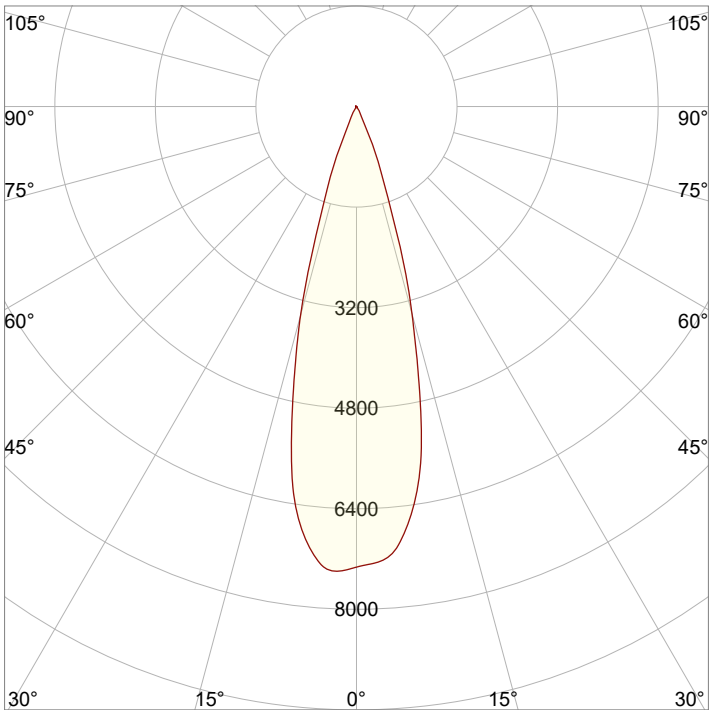
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	7311	1828	812	457	292	203	149	114	90	73	60	51	43	37	32	29	25	23	20	18
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
FC	679.2	169.8	75.5	42.5	27.2	18.9	13.9	10.6	8.4	6.8	5.6	4.7	4	3.5	3	2.7	2.4	2.1	1.9	1.7

Measurement Date: 9/16/2024

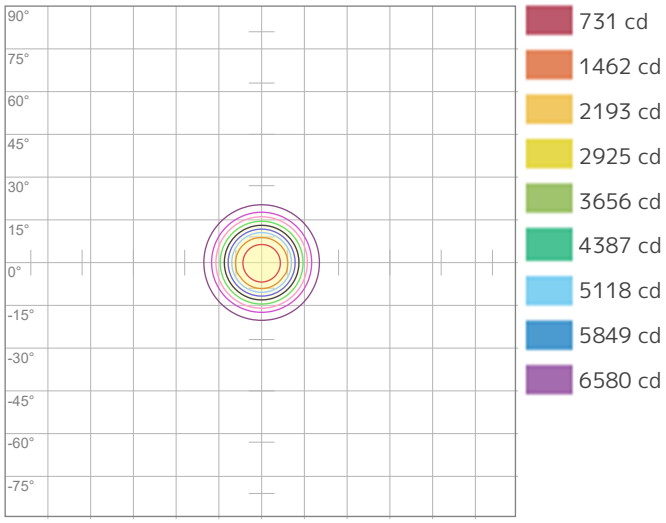
KL FRESNEL 4 FC (Zoom 50 2400K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45.1°
Cutoff Angle - 2.5%
52.1°

ISO Diagrams

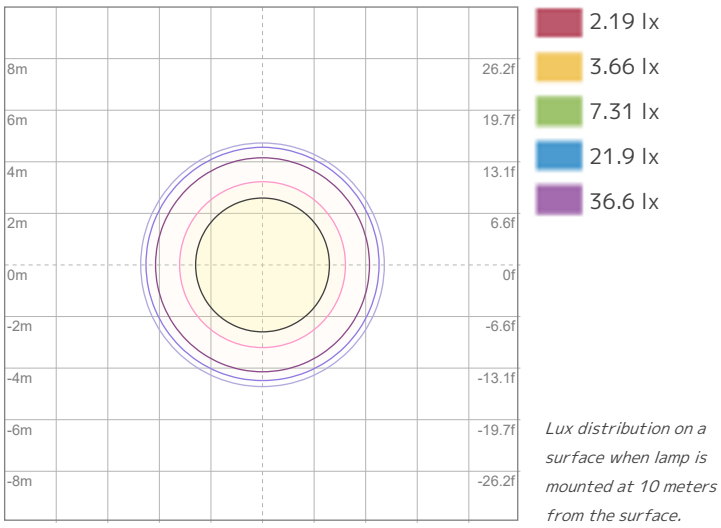


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 7311 cd



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

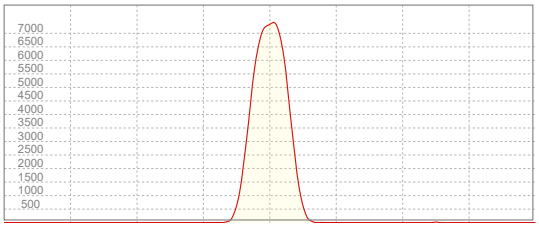
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 73.1 lx

Linear Distribution



Peak Candela

7313 cd

Calculate Center Beam Intensities

lux = 7313 / distance(m)^2

fc = 7313 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom 50 3200K)

Key Measurements

Output

Total Lumen Output: 1919 lm

Peak Intensity: 8106 cd

Beam

Beam Angle (50%): 29.2°

Field Angle (10%): 44.2°

Cutoff Angle (2.5%): 53°

Color

Color Temperature: 3183 K

CRI: 91.5

TLCI: 89

TM30 R_F: 90.8

TM30 R_g: 100.9

Power Details

Efficacy: 25 Lumen/Watt

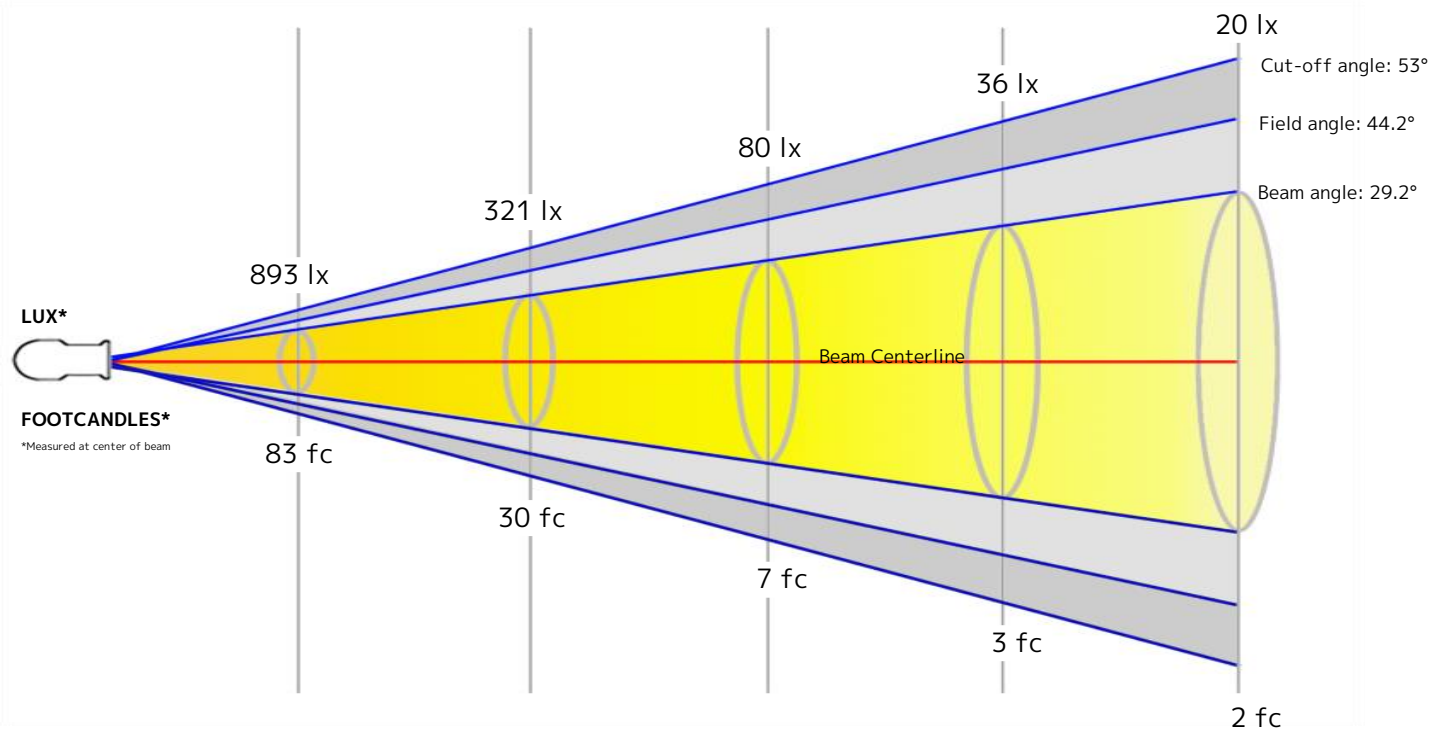
Power: 77.7 W

Supply Voltage: 120 V

Current: 0.657 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



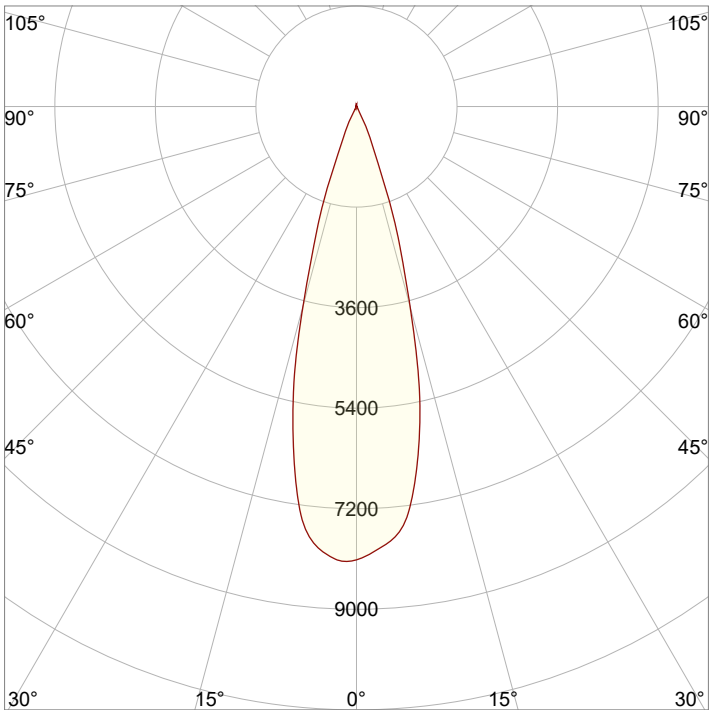
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17.1 ft	25.6 ft	34.2 ft

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
LX	8033	2008	893	502	321	223	164	126	99	80	66	56	48	41	36	31	28	25	22	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
FC	746.3	186.6	82.9	46.6	29.9	20.7	15.2	11.7	9.2	7.5	6.2	5.2	4.4	3.8	3.3	2.9	2.6	2.3	2.1	1.9

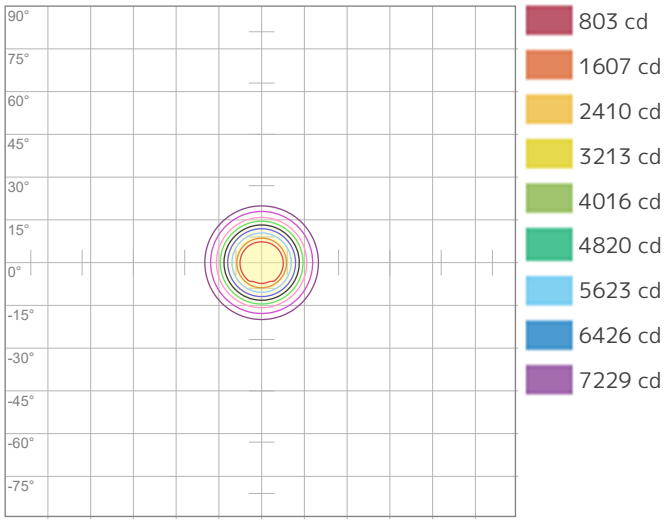
Measurement Date: 9/12/2024

Angular Distribution



Beam Angle - 50%
29.2°
Field Angle - 10%
44.2°
Cutoff Angle - 2.5%
53°

ISO Diagrams

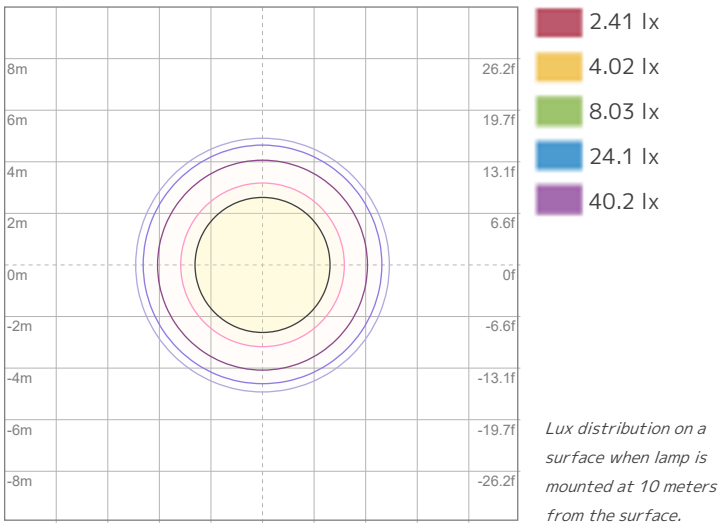


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8033 cd



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

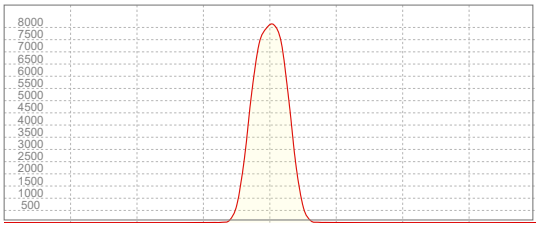
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 80.3 lx

Linear Distribution



Peak Candela

8106 cd

Calculate Center Beam Intensities

lux = 8106 / distance(m)^2

fc = 8106 / distance(ft)^2

Measurement Date: 9/12/2024

KL FRESNEL 4 FC (Zoom 50 3200K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1900 lm

Peak Intensity: 7976 cd

Beam

Beam Angle (50%): 29.2°

Field Angle (10%): 45.2°

Cutoff Angle (2.5%): 52.5°

Color

Color Temperature: 3177 K

CRI: 92.4

TLCI: 89

TM30 R_F: 91.2

TM30 R_g: 101.4

Power Details

Efficacy: 24 Lumen/Watt

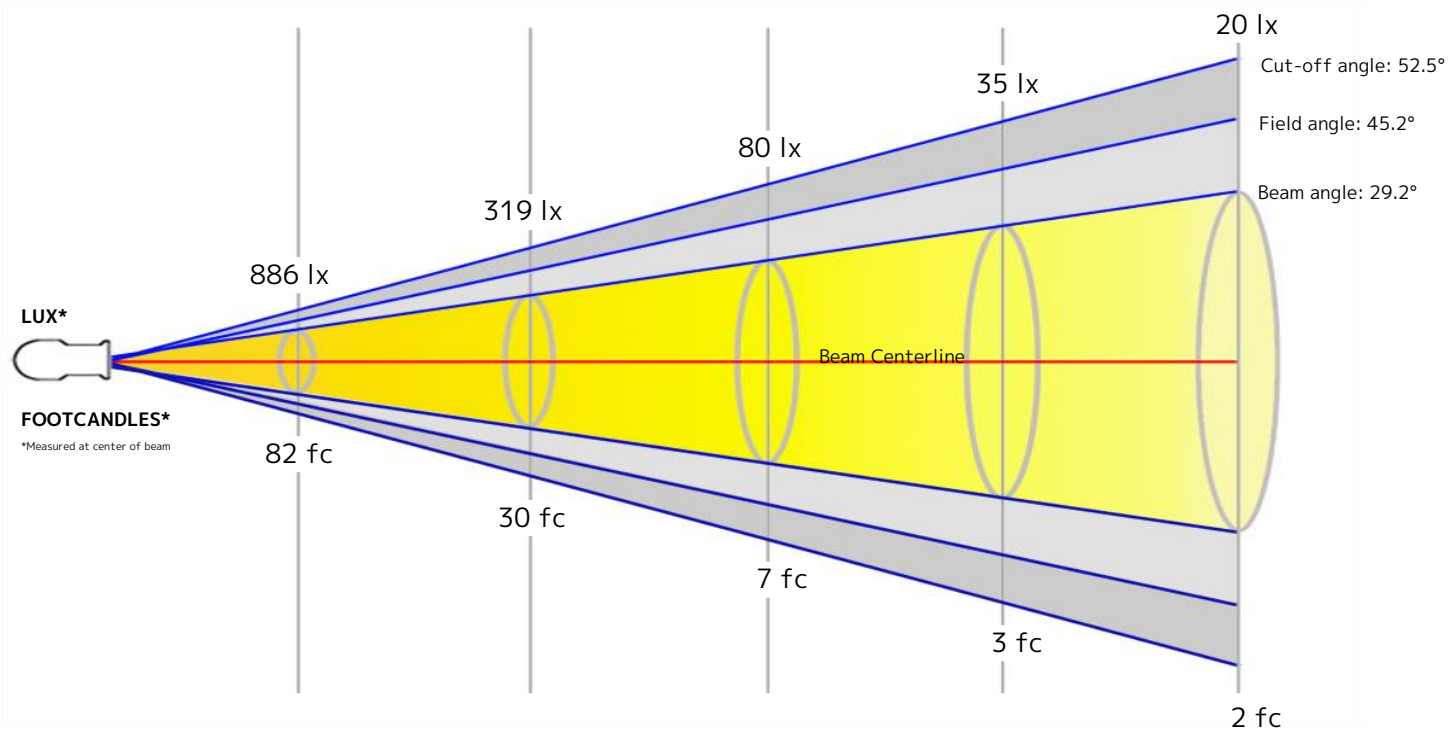
Power: 77.9 W

Supply Voltage: 120 V

Current: 0.655 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17.1 ft	25.6 ft	34.2 ft

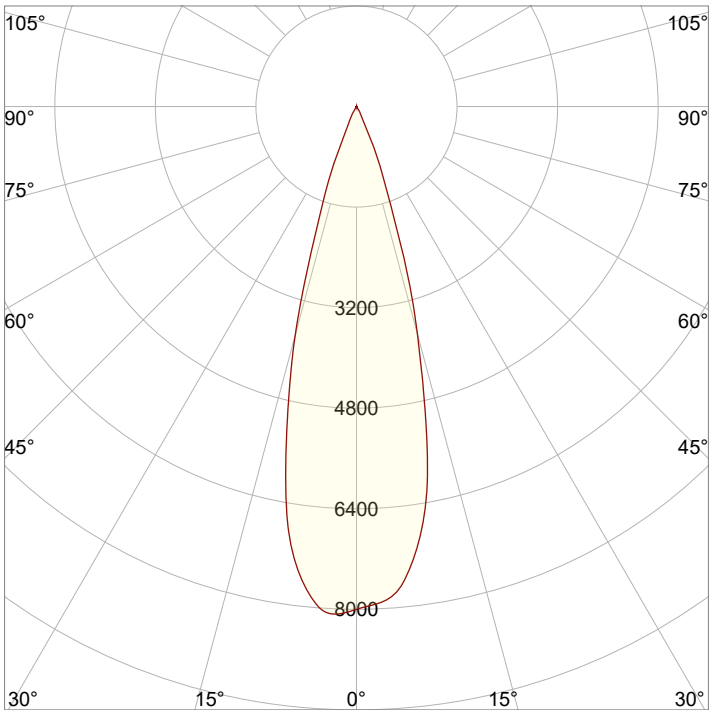
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	7975	1994	886	498	319	222	163	125	98	80	66	55	47	41	35	31	28	25	22	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
FC	740.9	185.2	82.3	46.3	29.6	20.6	15.1	11.6	9.1	7.4	6.1	5.1	4.4	3.8	3.3	2.9	2.6	2.3	2.1	1.9

Measurement Date: 9/13/2024

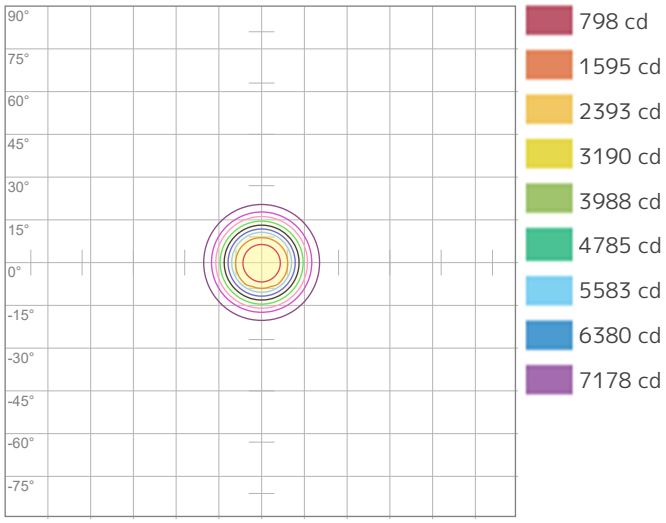
KL FRESNEL 4 FC (Zoom 50 3200K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29.2°
Field Angle - 10%
45.2°
Cutoff Angle - 2.5%
52.5°

ISO Diagrams

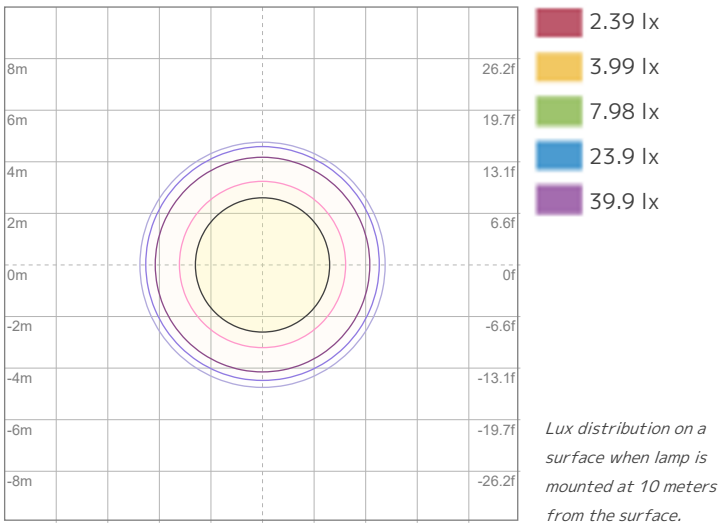


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 7975 cd



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

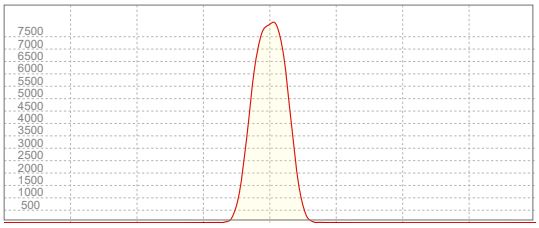
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 79.8 lx

Linear Distribution



Peak Candela

7976 cd

Calculate Center Beam Intensities

lux = 7976 / distance(m)^2

fc = 7976 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 4500K)

Key Measurements

Output

Total Lumen Output: 2060 lm

Peak Intensity: 8759 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 44.2°

Cutoff Angle (2.5%): 53°

Color

Color Temperature: 4462 K

CRI: 89.3

TLCI: 87

TM30 R_F: 87.7

TM30 R_g: 100.9

Power Details

Efficacy: 26 Lumen/Watt

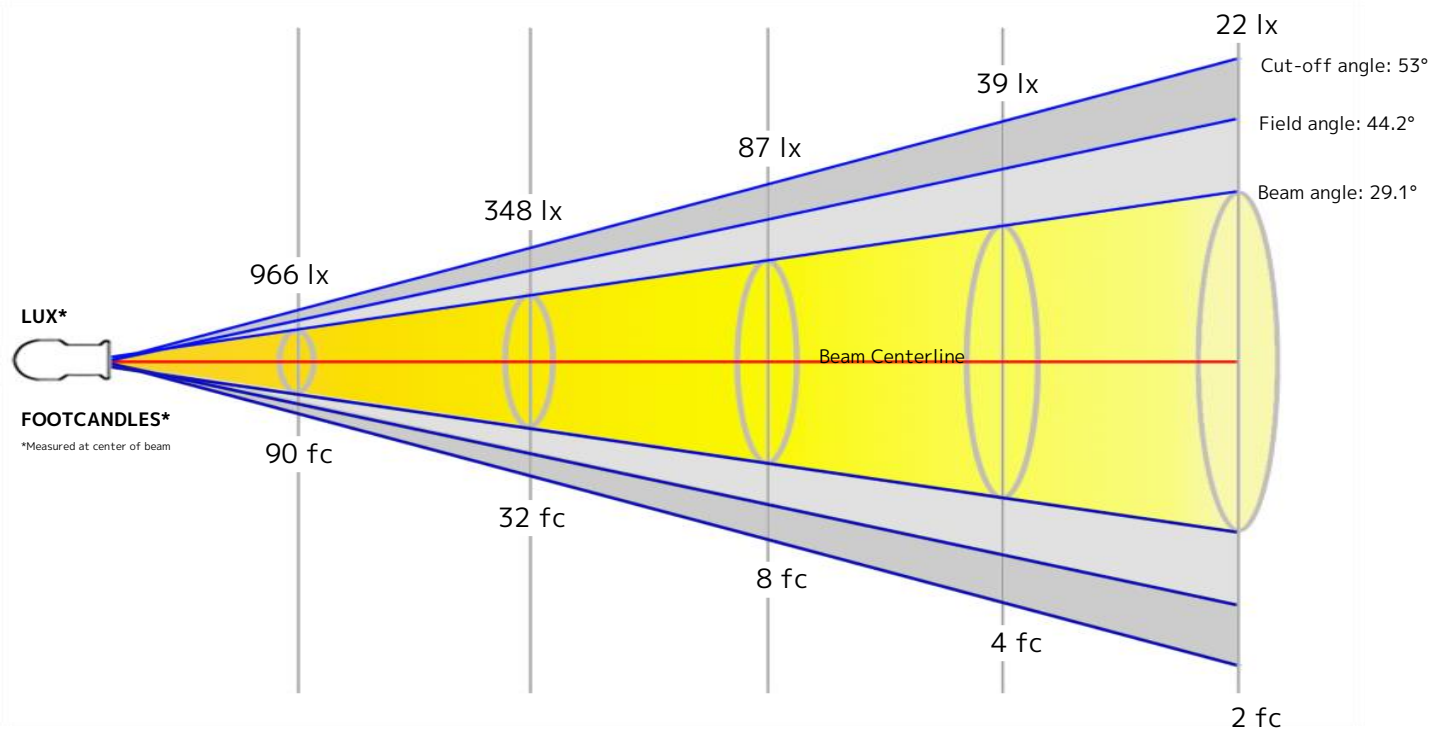
Power: 78.2 W

Supply Voltage: 119 V

Current: 0.662 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



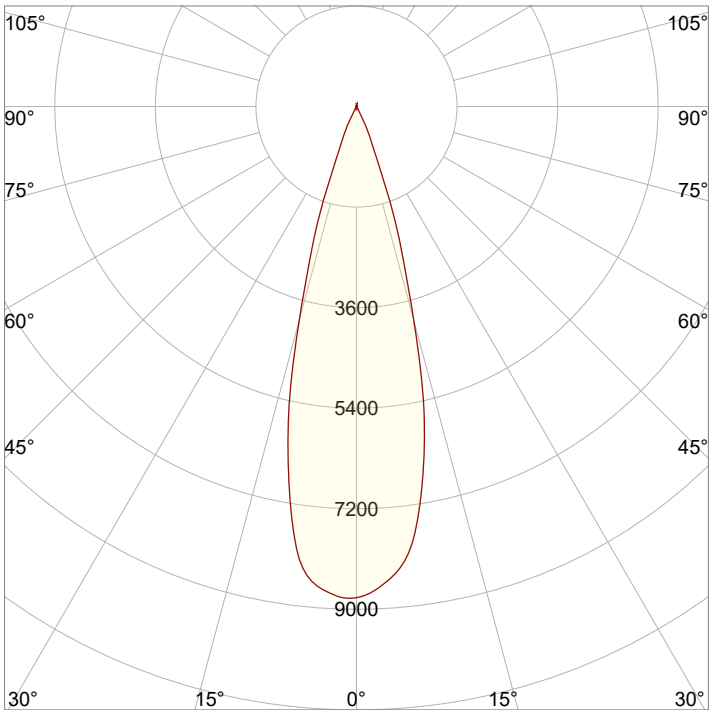
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34 ft

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
LX	8697	2174	966	544	348	242	177	136	107	87	72	60	51	44	39	34	30	27	24	22
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
FC	808	202	89.8	50.5	32.3	22.4	16.5	12.6	10	8.1	6.7	5.6	4.8	4.1	3.6	3.2	2.8	2.5	2.2	2

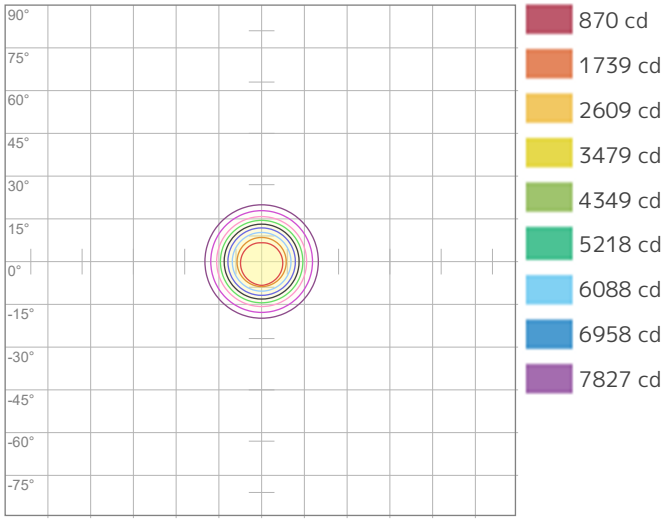
Measurement Date: 9/13/2024

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
44.2°
Cutoff Angle - 2.5%
53°

ISO Diagrams

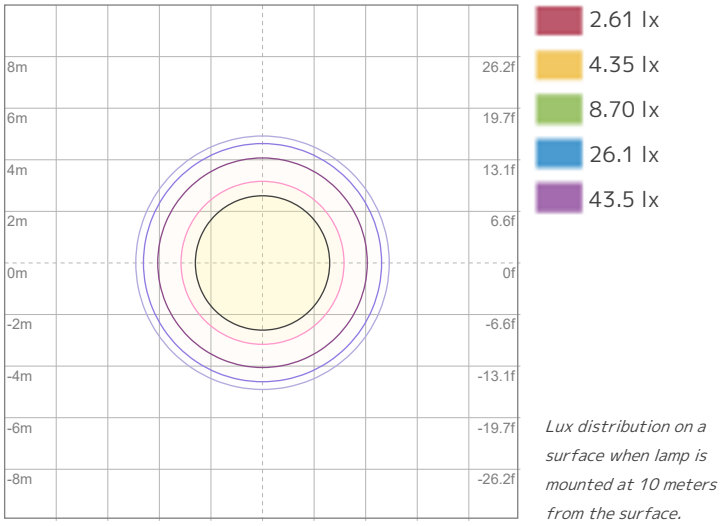


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8697 cd



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

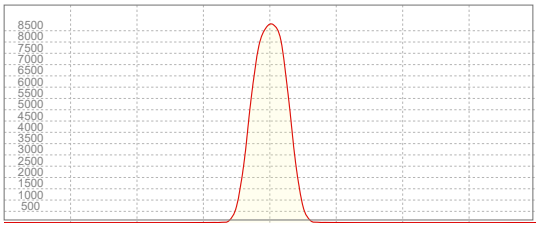
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 87.0 lx

Linear Distribution



Peak Candela

8759 cd

Calculate Center Beam Intensities

lux = 8759 / distance(m)^2

fc = 8759 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 4500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1994 lm

Peak Intensity: 8398 cd

Beam

Beam Angle (50%): 29.2°

Field Angle (10%): 45°

Cutoff Angle (2.5%): 52.5°

Color

Color Temperature: 4499 K

CRI: 91.5

TLCI: 90

TM30 R_F: 89.4

TM30 R_g: 101.9

Power Details

Efficacy: 26 Lumen/Watt

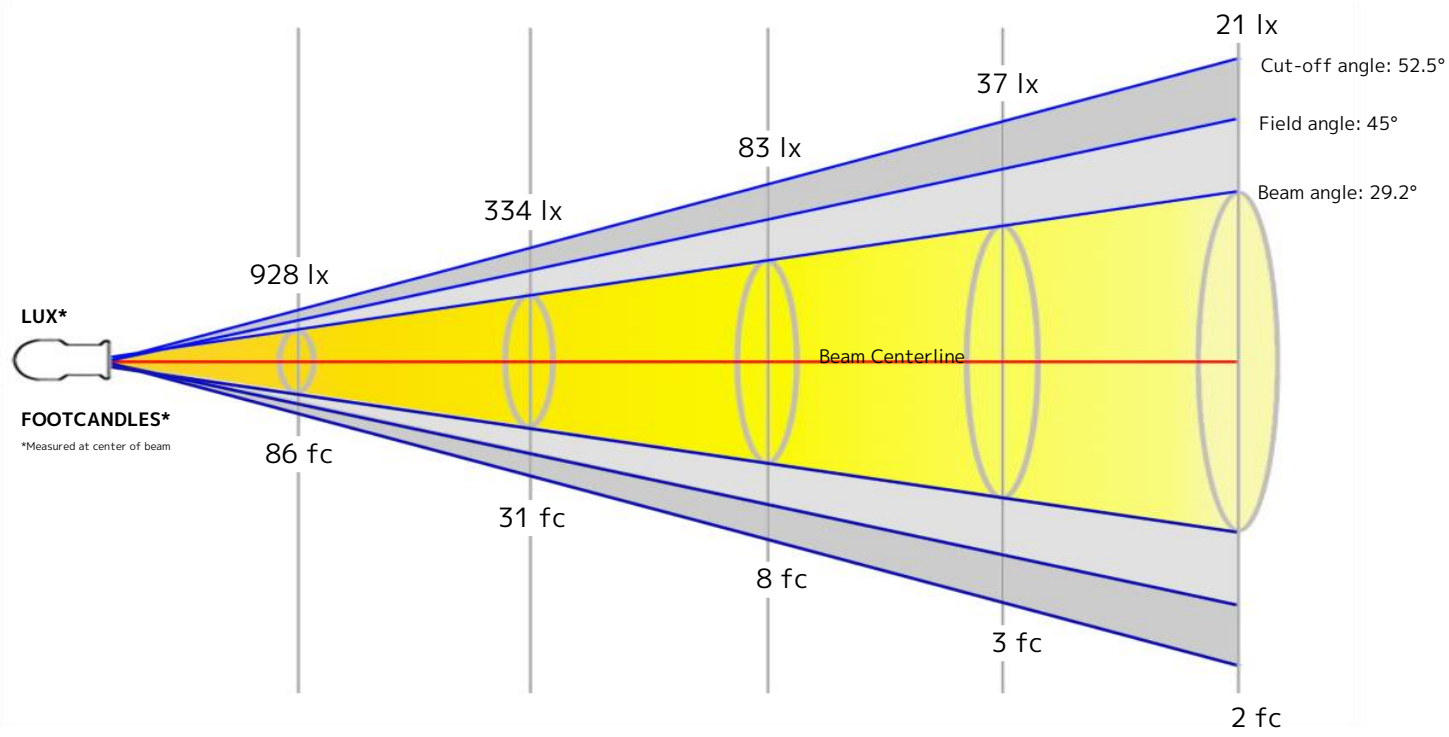
Power: 77.6 W

Supply Voltage: 120 V

Current: 0.653 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17.1 ft	25.6 ft	34.1 ft

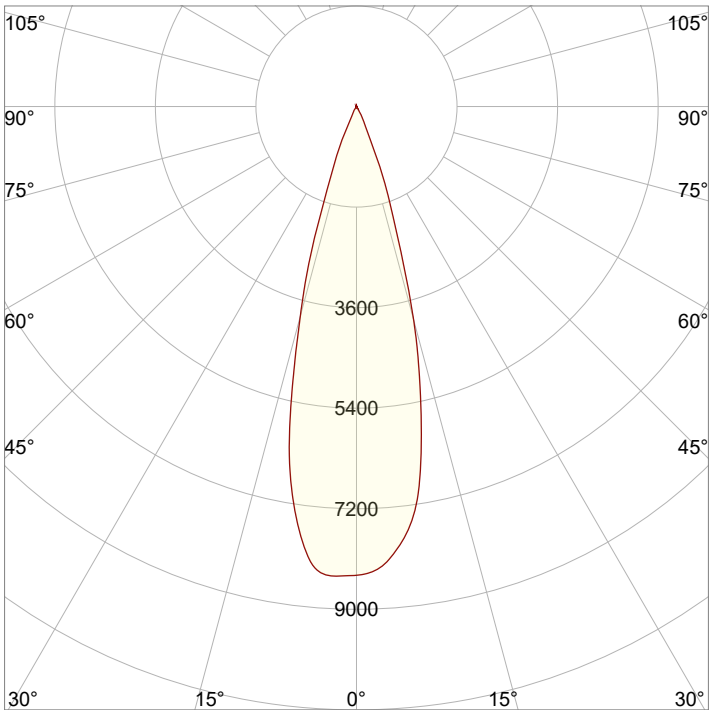
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	8350	2087	928	522	334	232	170	130	103	83	69	58	49	43	37	33	29	26	23	21
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
FC	775.7	193.9	86.2	48.5	31	21.5	15.8	12.1	9.6	7.8	6.4	5.4	4.6	4	3.4	3	2.7	2.4	2.1	1.9

Measurement Date: 9/13/2024

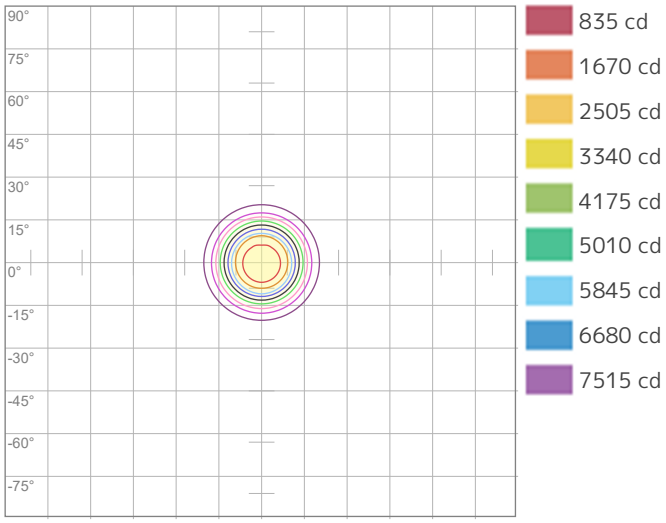
KL FRESNEL 4 FC (Zoom 50 4500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29.2°
Field Angle - 10%
45°
Cutoff Angle - 2.5%
52.5°

ISO Diagrams

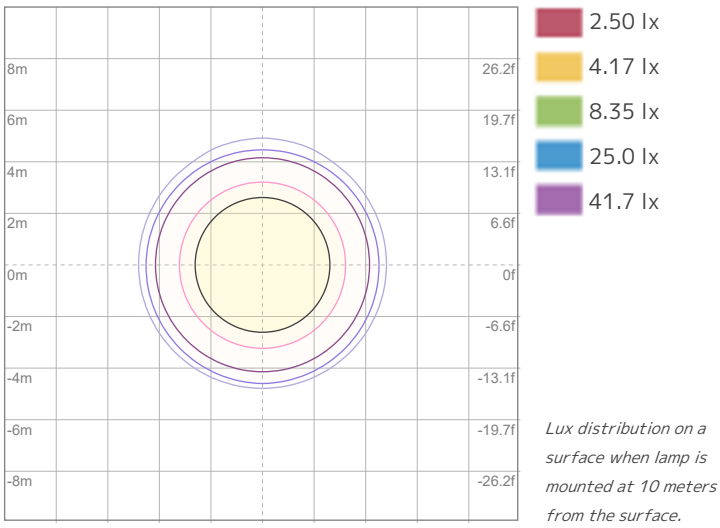


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8350 cd



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

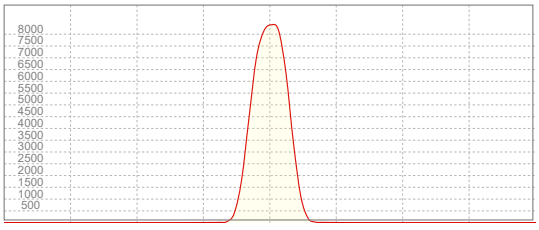
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 83.5 lx

Linear Distribution



Peak Candela
8398 cd

Calculate Center Beam Intensities

lux = 8398 / distance(m)^2

fc = 8398 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 5600K)

Key Measurements

Output

Total Lumen Output: 1961 lm

Peak Intensity: 8265 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45°

Cutoff Angle (2.5%): 52.5°

Color

Color Temperature: 5577 K

CRI: 91.7

TLCI: 92

TM30 R_F: 89.3

TM30 R_g: 102.6

Power Details

Efficacy: 25 Lumen/Watt

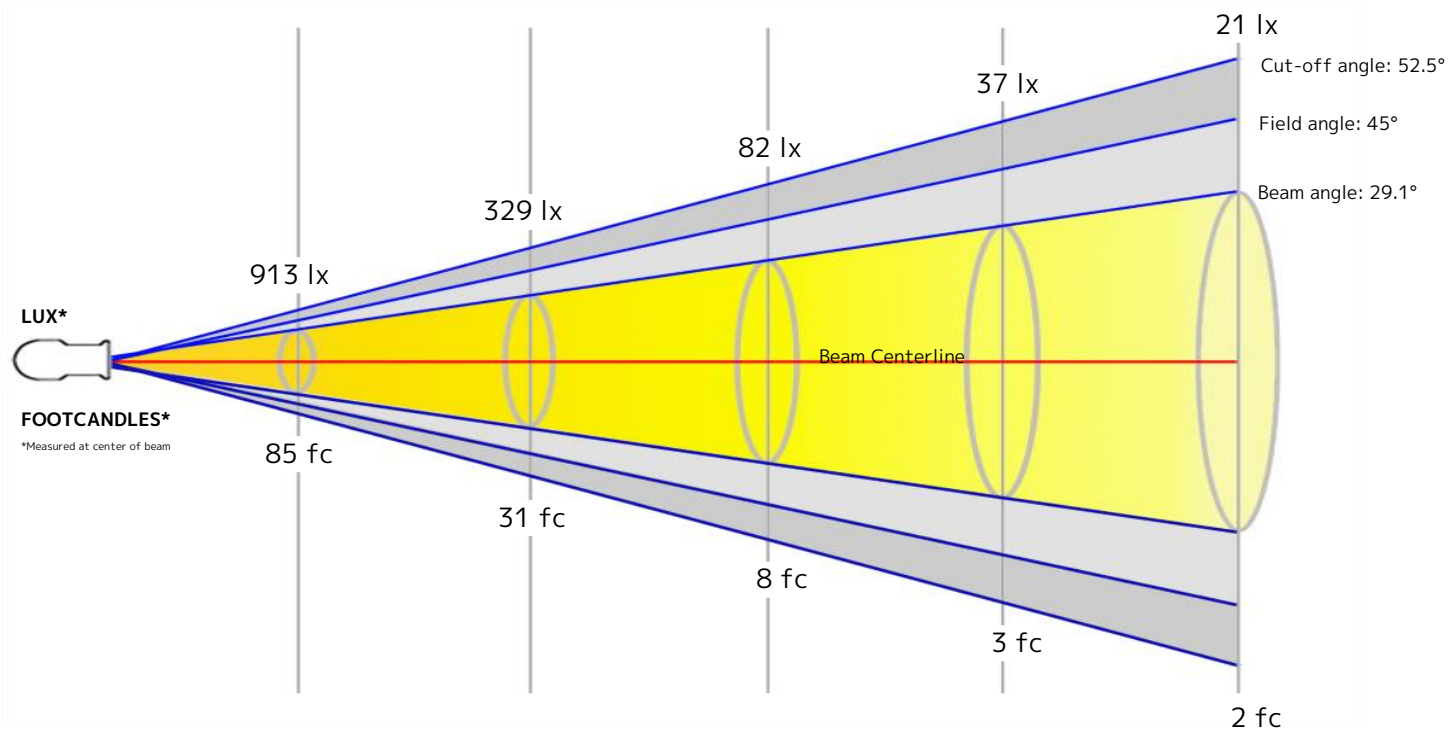
Power: 77.0 W

Supply Voltage: 120 V

Current: 0.647 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



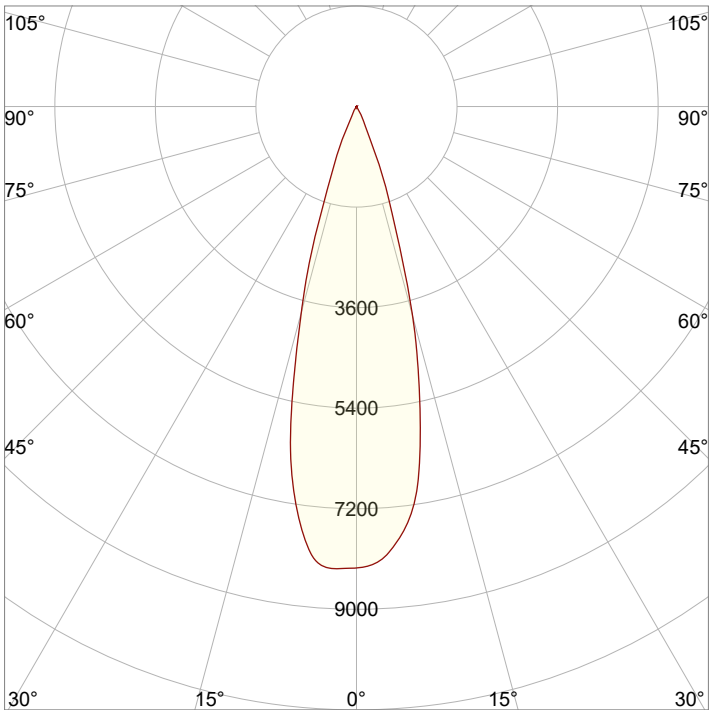
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.6 ft	34.1 ft

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
LX	8221	2055	913	514	329	228	168	128	101	82	68	57	49	42	37	32	28	25	23	21
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
FC	763.7	190.9	84.9	47.7	30.5	21.2	15.6	11.9	9.4	7.6	6.3	5.3	4.5	3.9	3.4	3	2.6	2.4	2.1	1.9

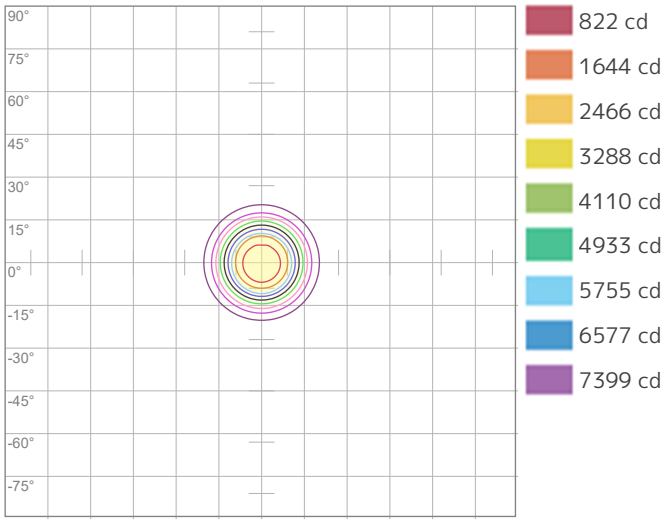
Measurement Date: 9/13/2024

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45°
Cutoff Angle - 2.5%
52.5°

ISO Diagrams

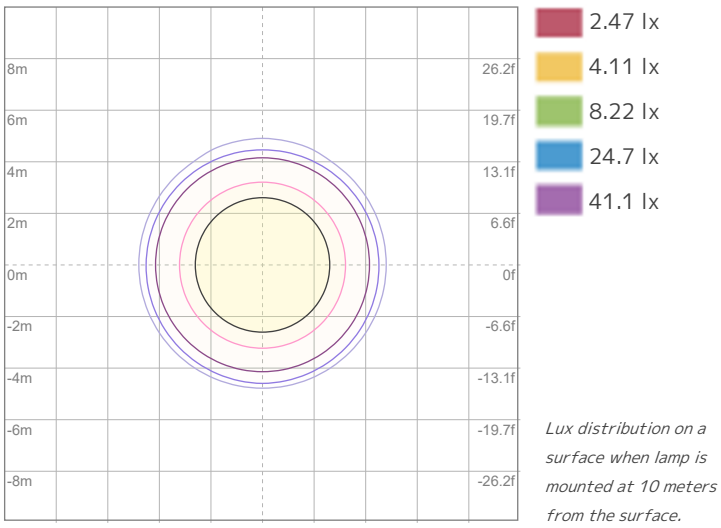


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8221 cd



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

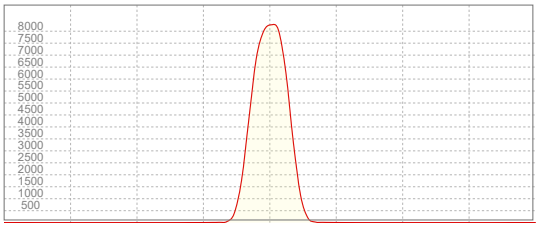
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 82.2 lx

Linear Distribution



Peak Candela

8265 cd

Calculate Center Beam Intensities

$lux = 8265 / distance(m)^2$

$fc = 8265 / distance(ft)^2$

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 5600K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1963 lm

Peak Intensity: 8223 cd

Beam

Beam Angle (50%): 29.2°

Field Angle (10%): 45.2°

Cutoff Angle (2.5%): 52.6°

Color

Color Temperature: 5605 K

CRI: 91.7

TLCI: 92

TM30 R_F: 89.3

TM30 R_g: 102.5

Power Details

Efficacy: 25 Lumen/Watt

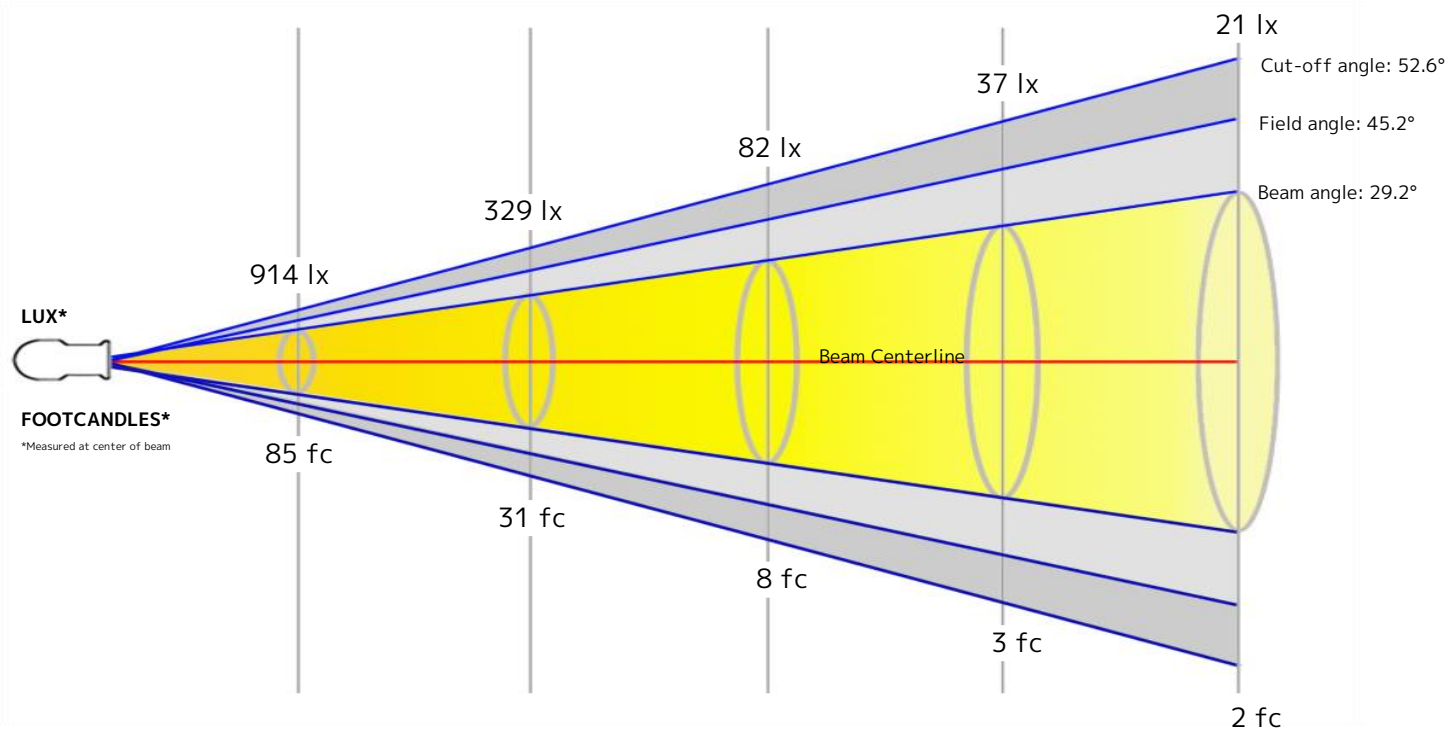
Power: 77.0 W

Supply Voltage: 120 V

Current: 0.651 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17.1 ft	25.6 ft	34.1 ft

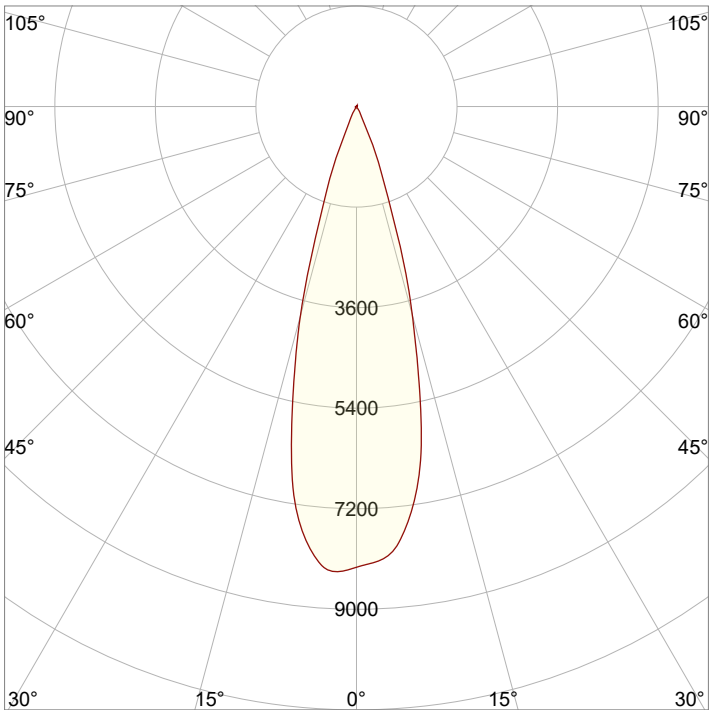
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	8223	2056	914	514	329	228	168	128	102	82	68	57	49	42	37	32	28	25	23	21
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
FC	764	191	84.9	47.7	30.6	21.2	15.6	11.9	9.4	7.6	6.3	5.3	4.5	3.9	3.4	3	2.6	2.4	2.1	1.9

Measurement Date: 9/13/2024

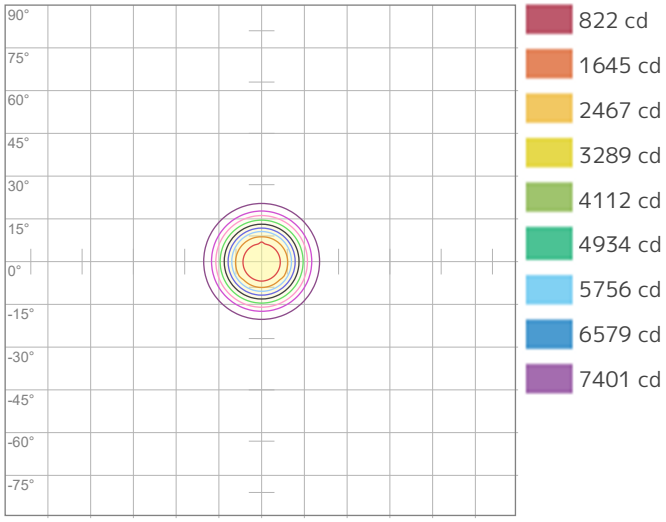
KL FRESNEL 4 FC (Zoom 50 5600K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29.2°
Field Angle - 10%
45.2°
Cutoff Angle - 2.5%
52.6°

ISO Diagrams

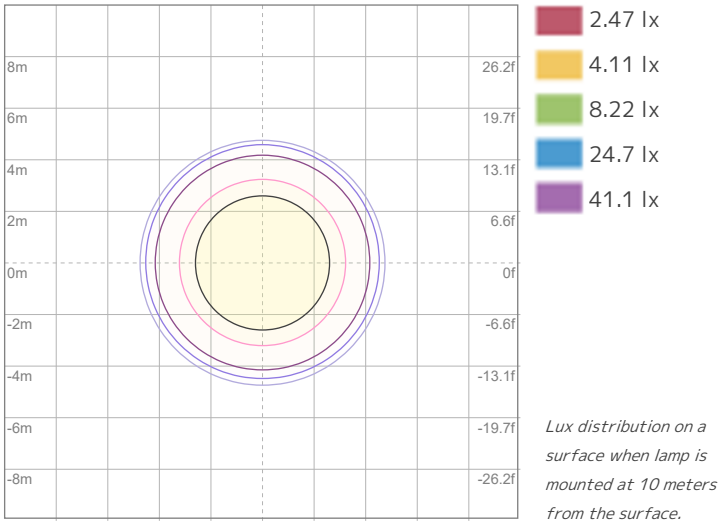


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8223 cd



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

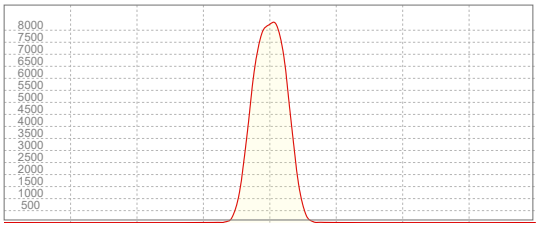
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 82.2 lx

Linear Distribution



Peak Candela

8223 cd

Calculate Center Beam Intensities

lux = 8223 / distance(m)^2

fc = 8223 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 6000K)

Key Measurements

Output

Total Lumen Output: 1921 lm

Peak Intensity: 8129 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45.1°

Cutoff Angle (2.5%): 52.2°

Color

Color Temperature: 5968 K

CRI: 91.9

TLCI: 92

TM30 R_F: 89.3

TM30 R_g: 102.7

Power Details

Efficacy: 25 Lumen/Watt

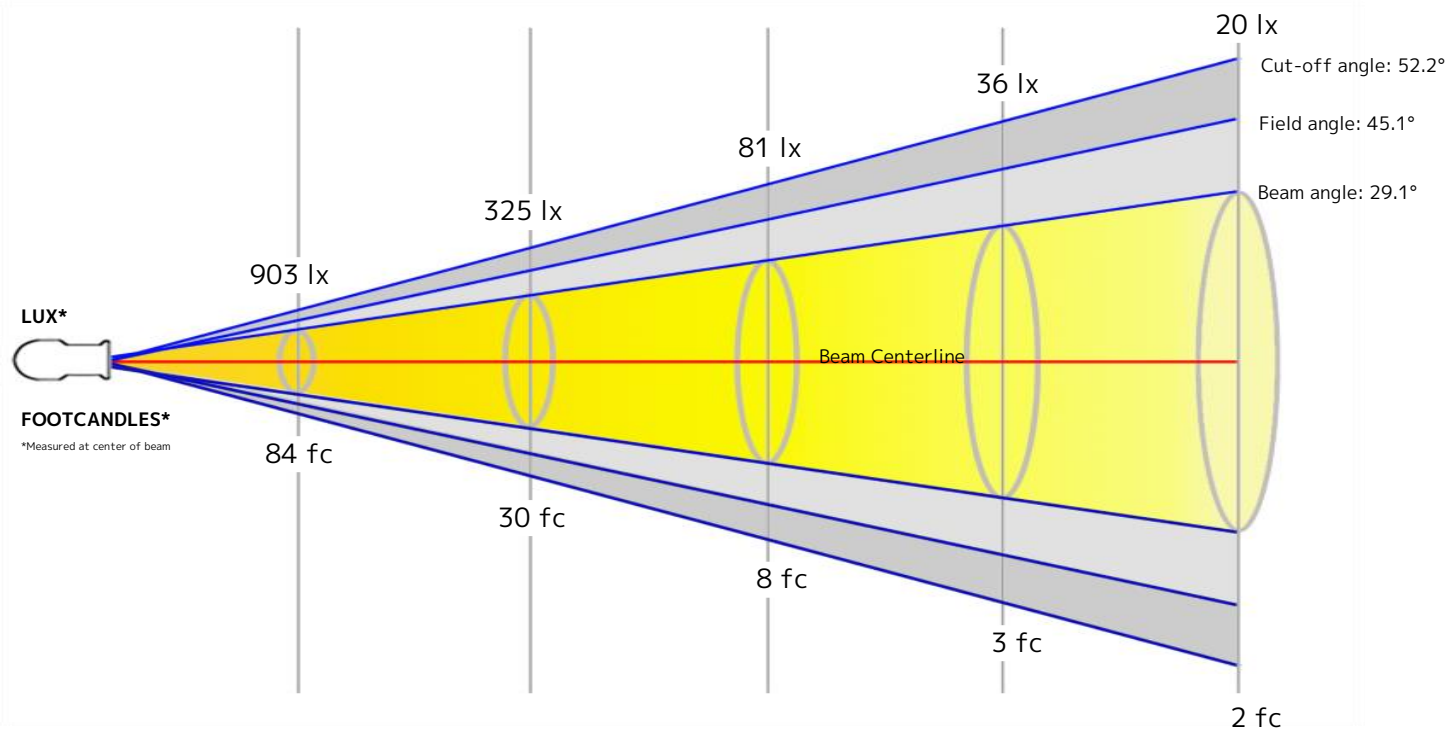
Power: 76.8 W

Supply Voltage: 120 V

Current: 0.647 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



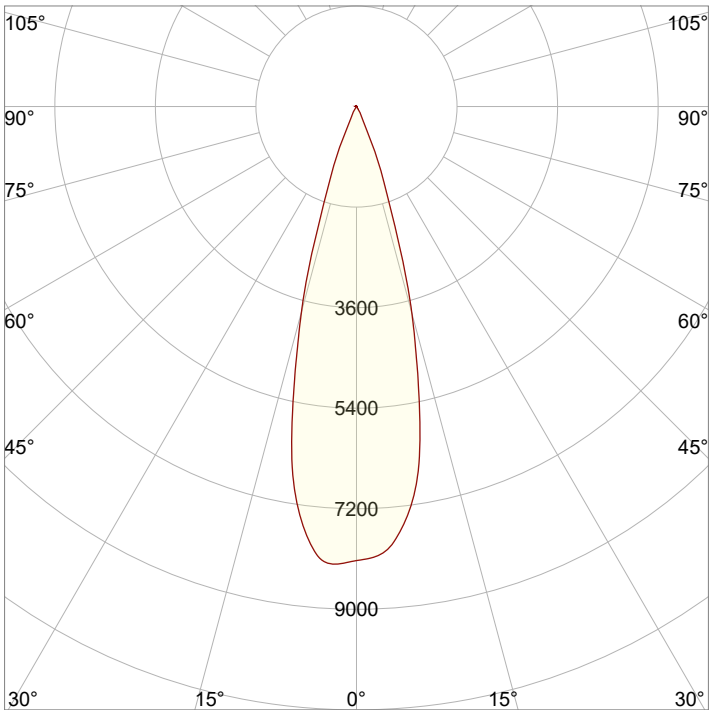
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34 ft

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
LX	8124	2031	903	508	325	226	166	127	100	81	67	56	48	41	36	32	28	25	23	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
FC	754.7	188.7	83.9	47.2	30.2	21	15.4	11.8	9.3	7.5	6.2	5.2	4.5	3.9	3.4	2.9	2.6	2.3	2.1	1.9

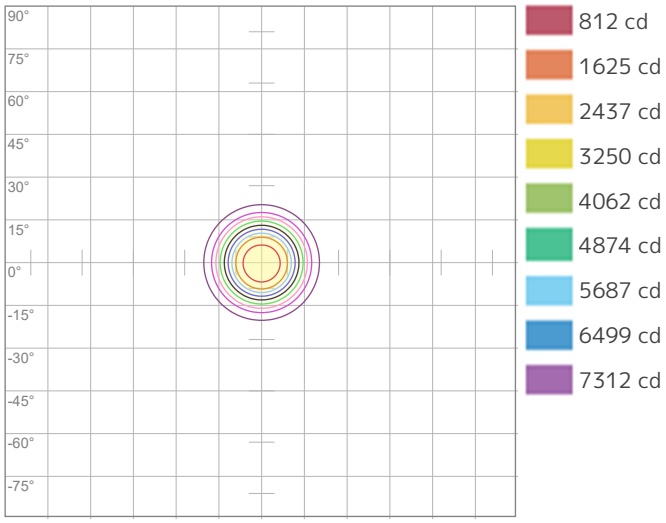
Measurement Date: 9/13/2024

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45.1°
Cutoff Angle - 2.5%
52.2°

ISO Diagrams

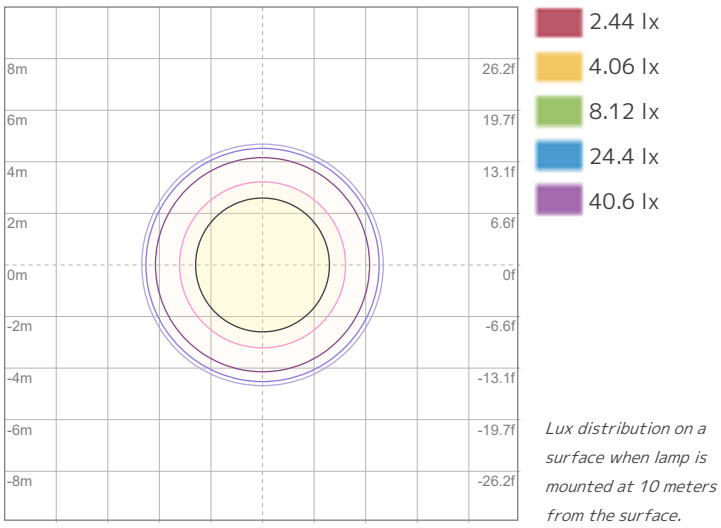


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8124 cd



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

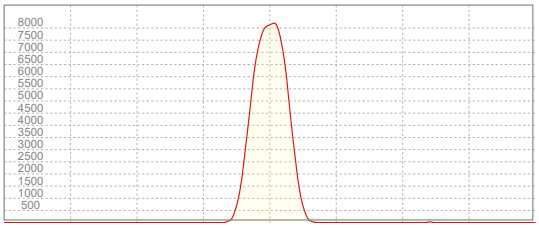
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 81.2 lx

Linear Distribution



Peak Candela

8129 cd

Calculate Center Beam Intensities

lux = 8129 / distance(m)^2

fc = 8129 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 6000K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1958 lm

Peak Intensity: 8273 cd

Beam

Beam Angle (50%): 29°

Field Angle (10%): 44.9°

Cutoff Angle (2.5%): 52.4°

Color

Color Temperature: 5982 K

CRI: 91.9

TLCI: 91

TM30 R_F: 89.2

TM30 R_g: 103.3

Power Details

Efficacy: 25 Lumen/Watt

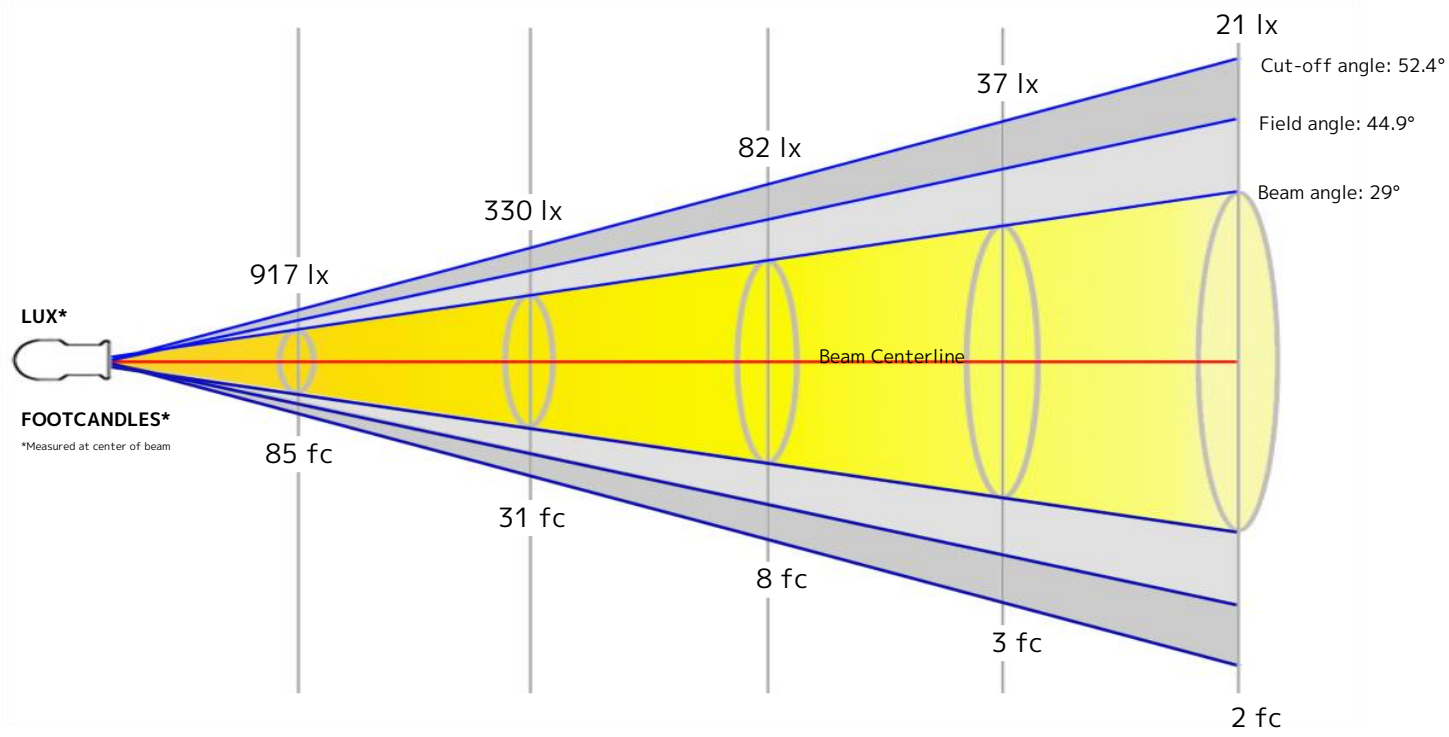
Power: 77.4 W

Supply Voltage: 119 V

Current: 0.657 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34 ft

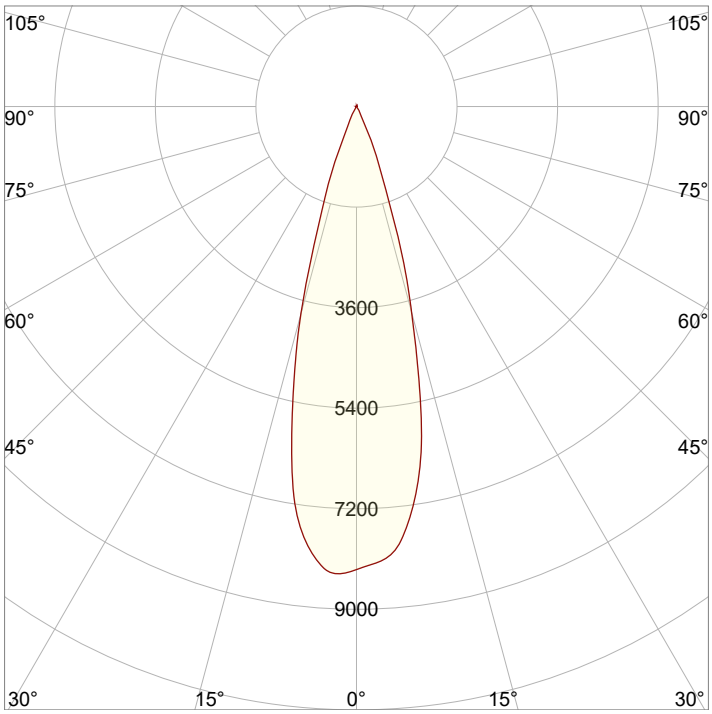
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	8250	2062	917	516	330	229	168	129	102	82	68	57	49	42	37	32	29	25	23	21
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
FC	766.4	191.6	85.2	47.9	30.7	21.3	15.6	12	9.5	7.7	6.3	5.3	4.5	3.9	3.4	3	2.7	2.4	2.1	1.9

Measurement Date: 9/13/2024

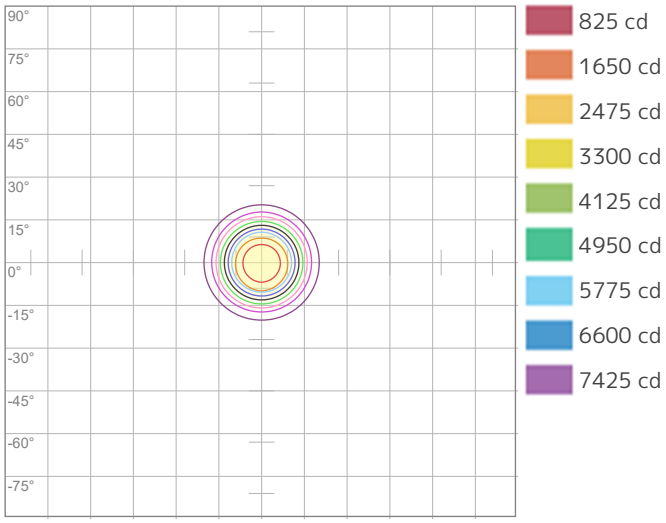
KL FRESNEL 4 FC (Zoom 50 6000K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29°
Field Angle - 10%
44.9°
Cutoff Angle - 2.5%
52.4°

ISO Diagrams

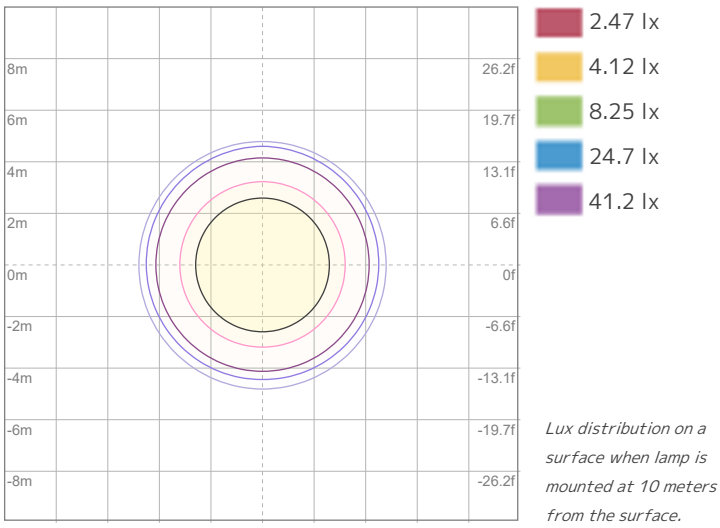


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8250 cd



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

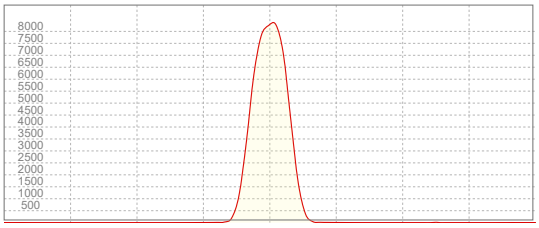
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 82.5 lx

Linear Distribution



Peak Candela

8273 cd

Calculate Center Beam Intensities

$lux = 8273 / distance(m)^2$

$fc = 8273 / distance(ft)^2$

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 6500K)

Key Measurements

Output

Total Lumen Output: 1933 lm

Peak Intensity: 8110 cd

Beam

Beam Angle (50%): 29.2°

Field Angle (10%): 45°

Cutoff Angle (2.5%): 52.6°

Color

Color Temperature: 6494 K

CRI: 91.2

TLCI: 91

TM30 R_F: 88.3

TM30 R_g: 101.7

Power Details

Efficacy: 25 Lumen/Watt

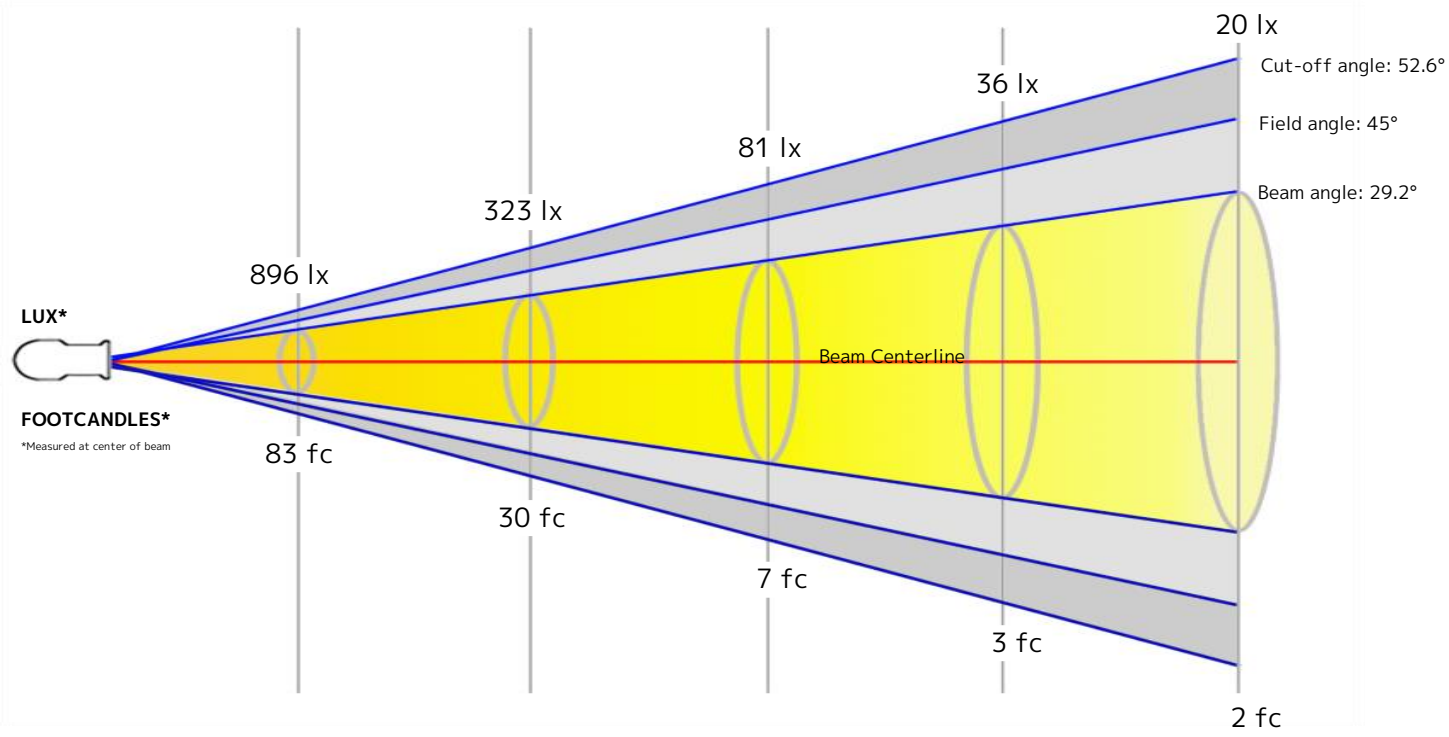
Power: 76.8 W

Supply Voltage: 120 V

Current: 0.650 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



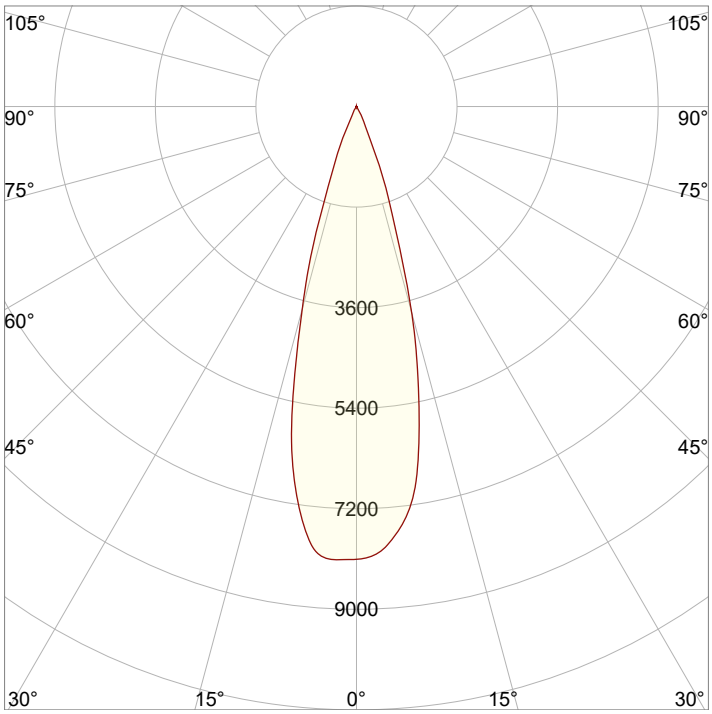
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17.1 ft	25.6 ft	34.2 ft

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
LX	8063	2016	896	504	323	224	165	126	100	81	67	56	48	41	36	31	28	25	22	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
FC	749.1	187.3	83.2	46.8	30	20.8	15.3	11.7	9.2	7.5	6.2	5.2	4.4	3.8	3.3	2.9	2.6	2.3	2.1	1.9

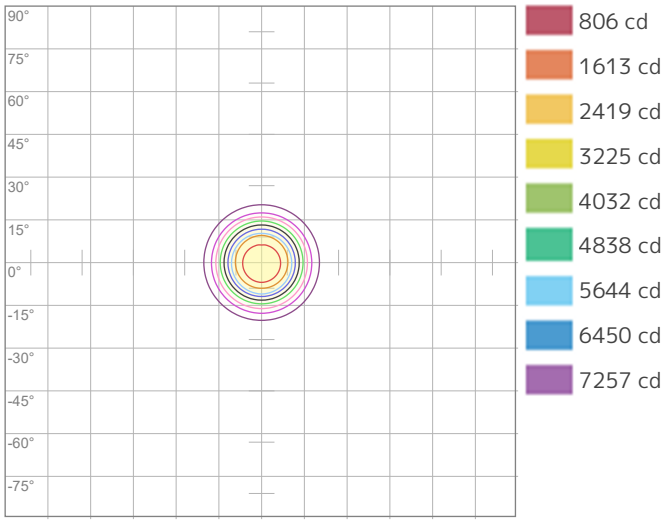
Measurement Date: 9/13/2024

Angular Distribution



Beam Angle - 50%
29.2°
Field Angle - 10%
45°
Cutoff Angle - 2.5%
52.6°

ISO Diagrams

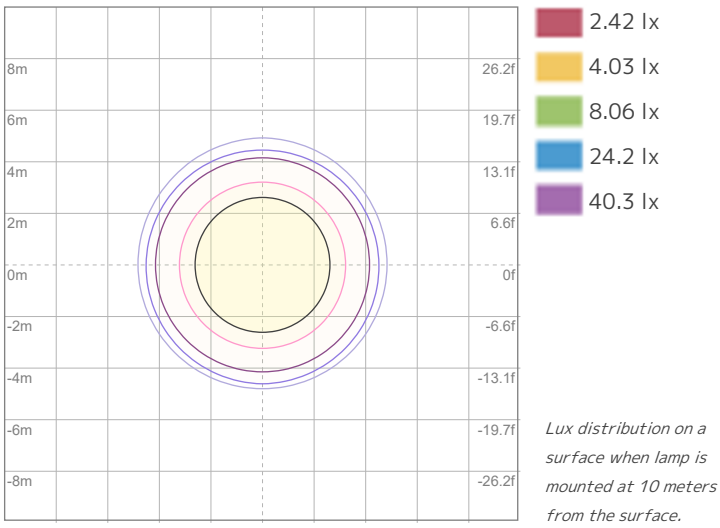


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8063 cd



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

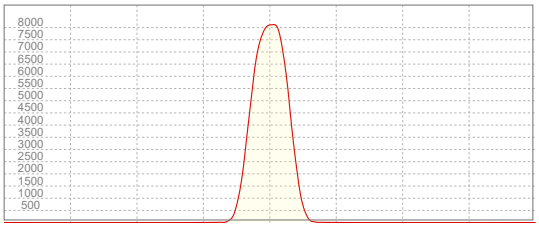
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 80.6 lx

Linear Distribution



Peak Candela

8110 cd

Calculate Center Beam Intensities

lux = 8110 / distance(m)^2

fc = 8110 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 6500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1836 lm

Peak Intensity: 7759 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 44.8°

Cutoff Angle (2.5%): 52.8°

Color

Color Temperature: 6467 K

CRI: 91.5

TLCI: 92

TM30 R_F: 88.7

TM30 R_g: 102.2

Power Details

Efficacy: 25 Lumen/Watt

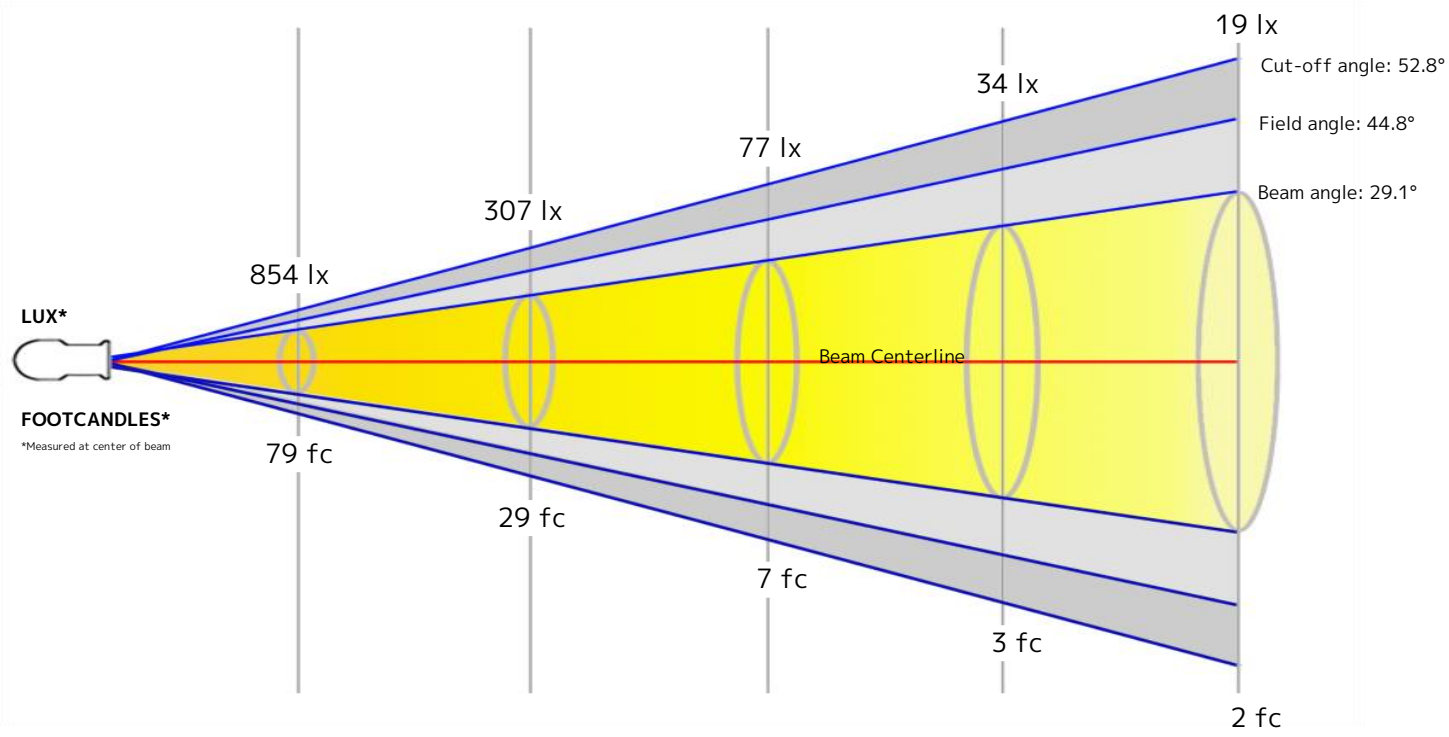
Power: 72.6 W

Supply Voltage: 119 V

Current: 0.616 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34.1 ft

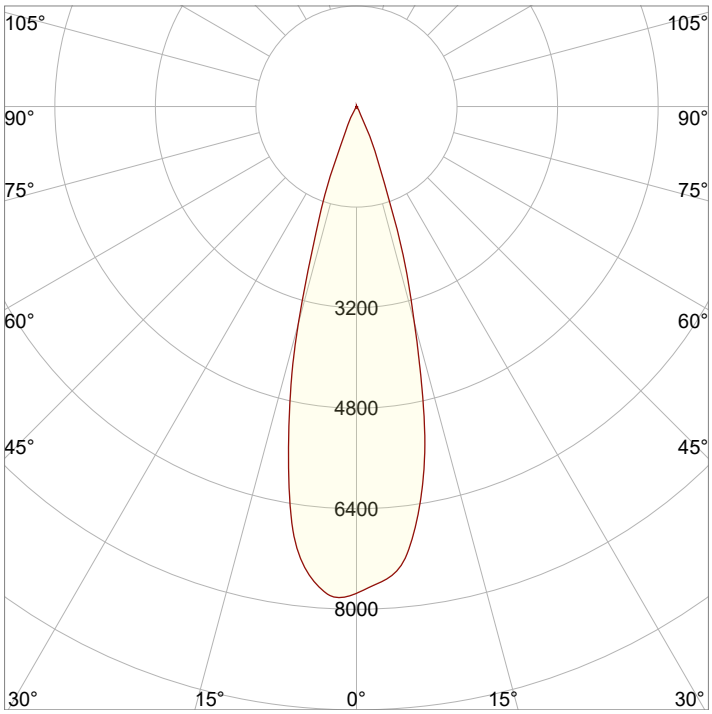
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	7687	1922	854	480	307	214	157	120	95	77	64	53	45	39	34	30	27	24	21	19
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
FC	714.1	178.5	79.3	44.6	28.6	19.8	14.6	11.2	8.8	7.1	5.9	5	4.2	3.6	3.2	2.8	2.5	2.2	2	1.8

Measurement Date: 9/13/2024

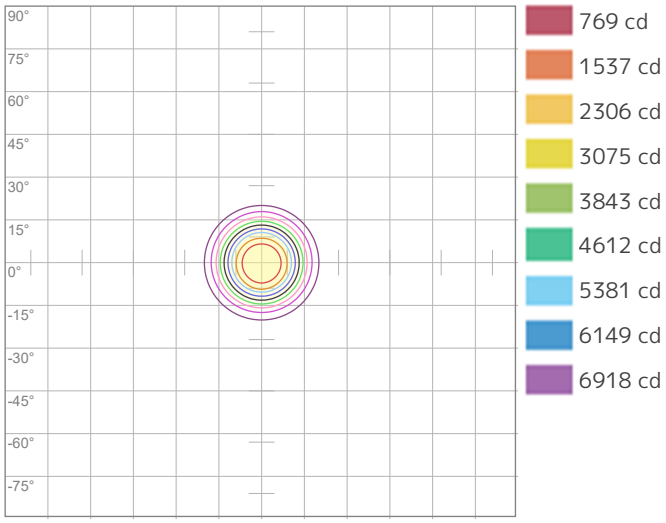
KL FRESNEL 4 FC (Zoom 50 6500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
44.8°
Cutoff Angle - 2.5%
52.8°

ISO Diagrams

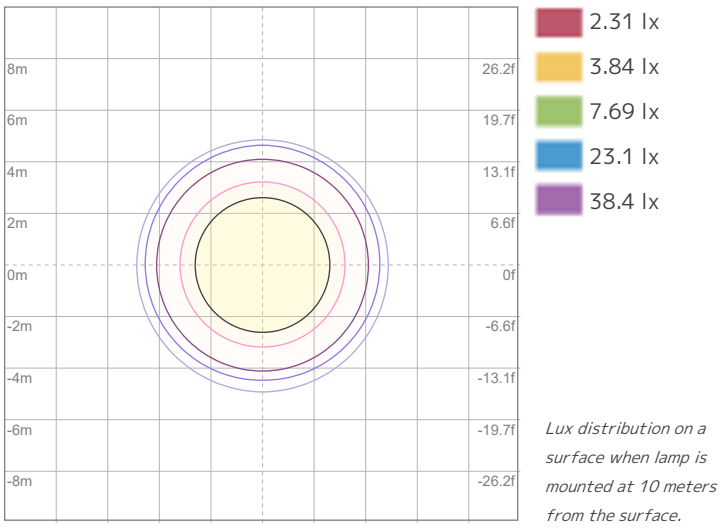


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 7687 cd



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

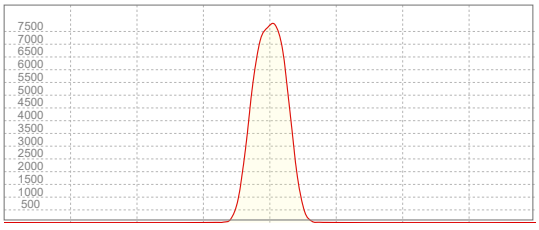
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 76.9 lx

Linear Distribution



Peak Candela

7759 cd

Calculate Center Beam Intensities

lux = 7759 / distance(m)^2

fc = 7759 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 7500K)

Key Measurements

Output

Total Lumen Output: 2002 lm

Peak Intensity: 8482 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 44.2°

Cutoff Angle (2.5%): 53°

Color

Color Temperature: 7502 K

CRI: 82.4

TLCI: 65

TM30 R_F: 80.4

TM30 R_g: 95.3

Power Details

Efficacy: 26 Lumen/Watt

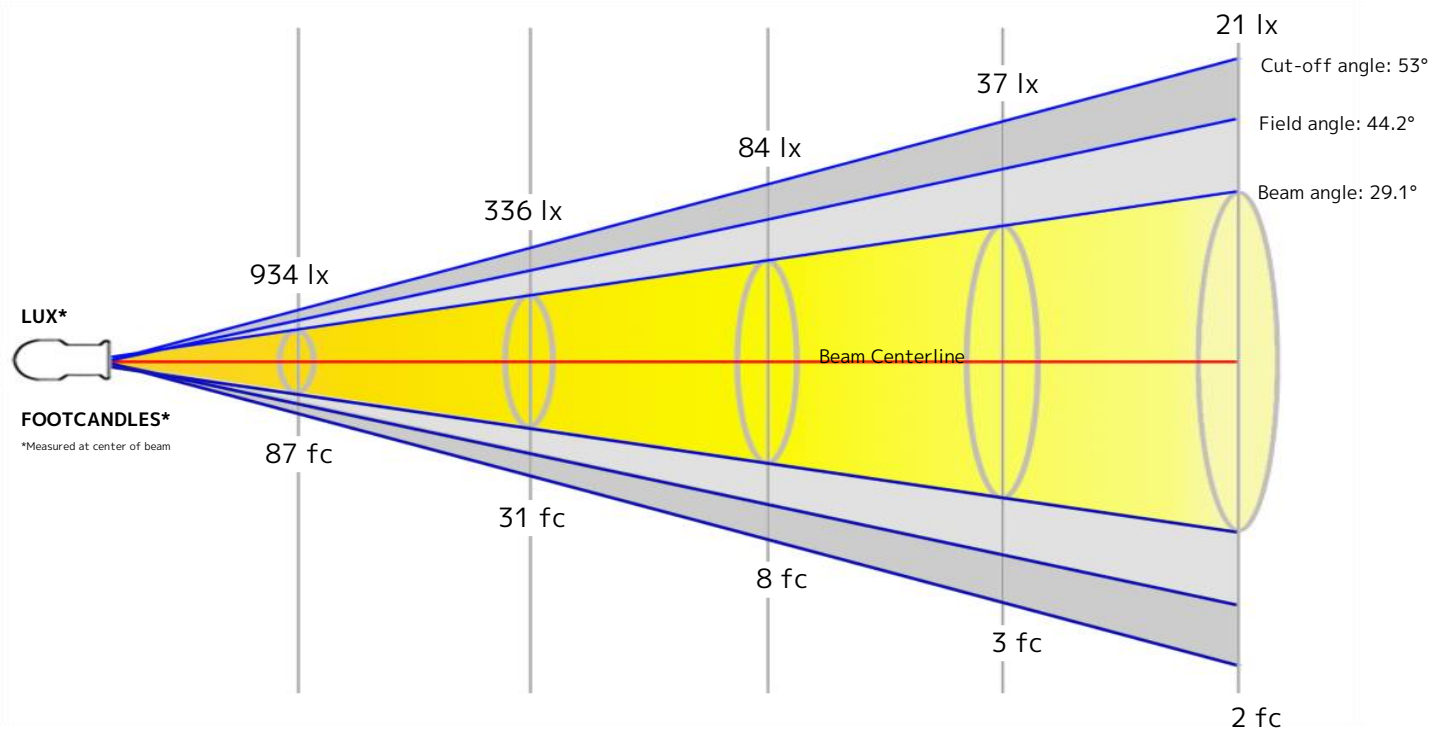
Power: 77.8 W

Supply Voltage: 120 V

Current: 0.655 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



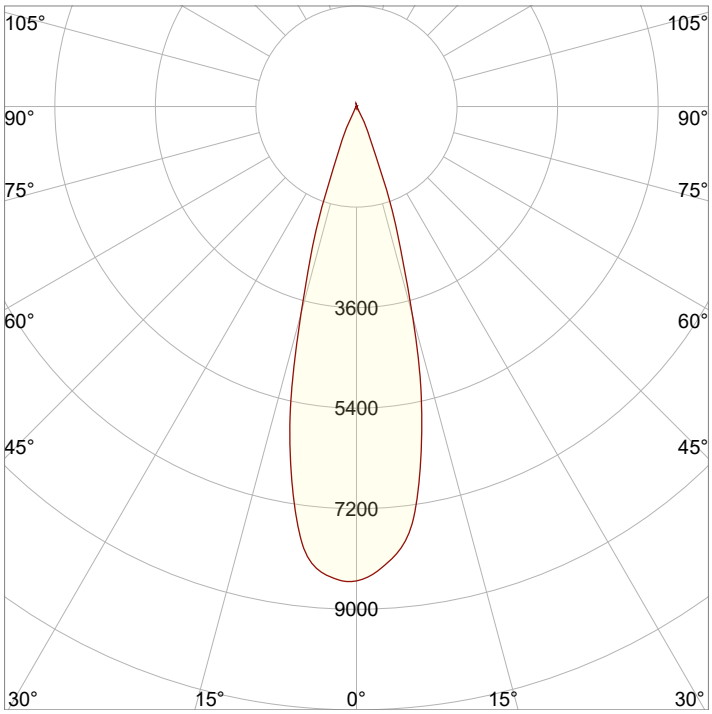
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.5 ft	34 ft

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
LX	8402	2100	934	525	336	233	171	131	104	84	69	58	50	43	37	33	29	26	23	21
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
FC	780.5	195.1	86.7	48.8	31.2	21.7	15.9	12.2	9.6	7.8	6.5	5.4	4.6	4	3.5	3	2.7	2.4	2.2	2

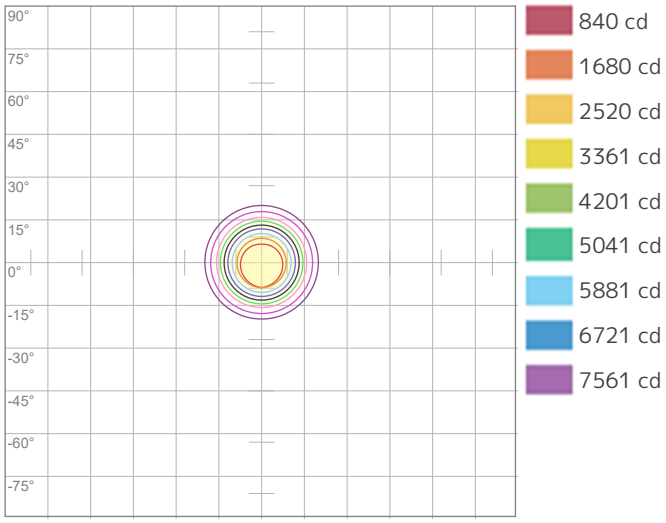
Measurement Date: 9/13/2024

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
44.2°
Cutoff Angle - 2.5%
53°

ISO Diagrams

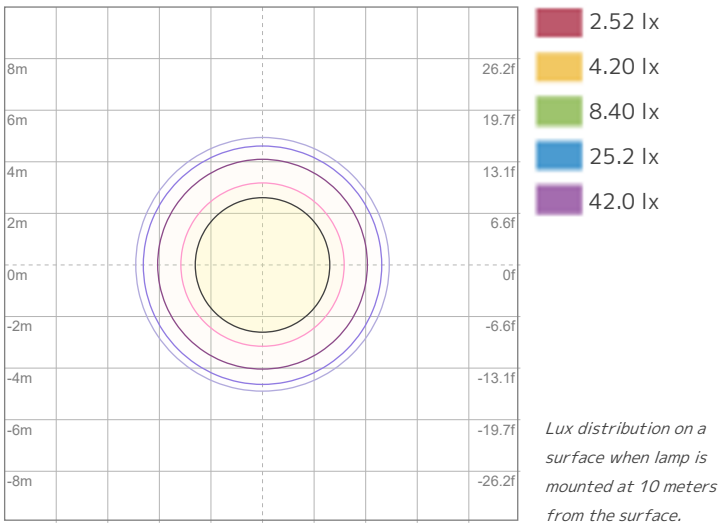


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8402 cd



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

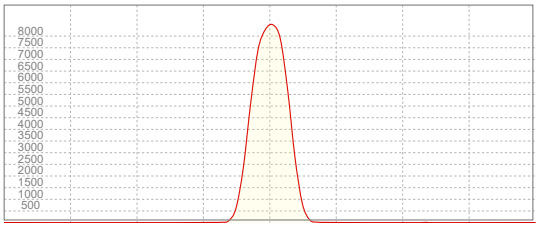
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 84.0 lx

Linear Distribution



Peak Candela

8482 cd

Calculate Center Beam Intensities

lux = 8482 / distance(m)^2

fc = 8482 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 7500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1895 lm

Peak Intensity: 7986 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45.1°

Cutoff Angle (2.5%): 52.5°

Color

Color Temperature: 7494 K

CRI: 90.5

TLCI: 91

TM30 R_F: 87.4

TM30 R_g: 101.2

Power Details

Efficacy: 26 Lumen/Watt

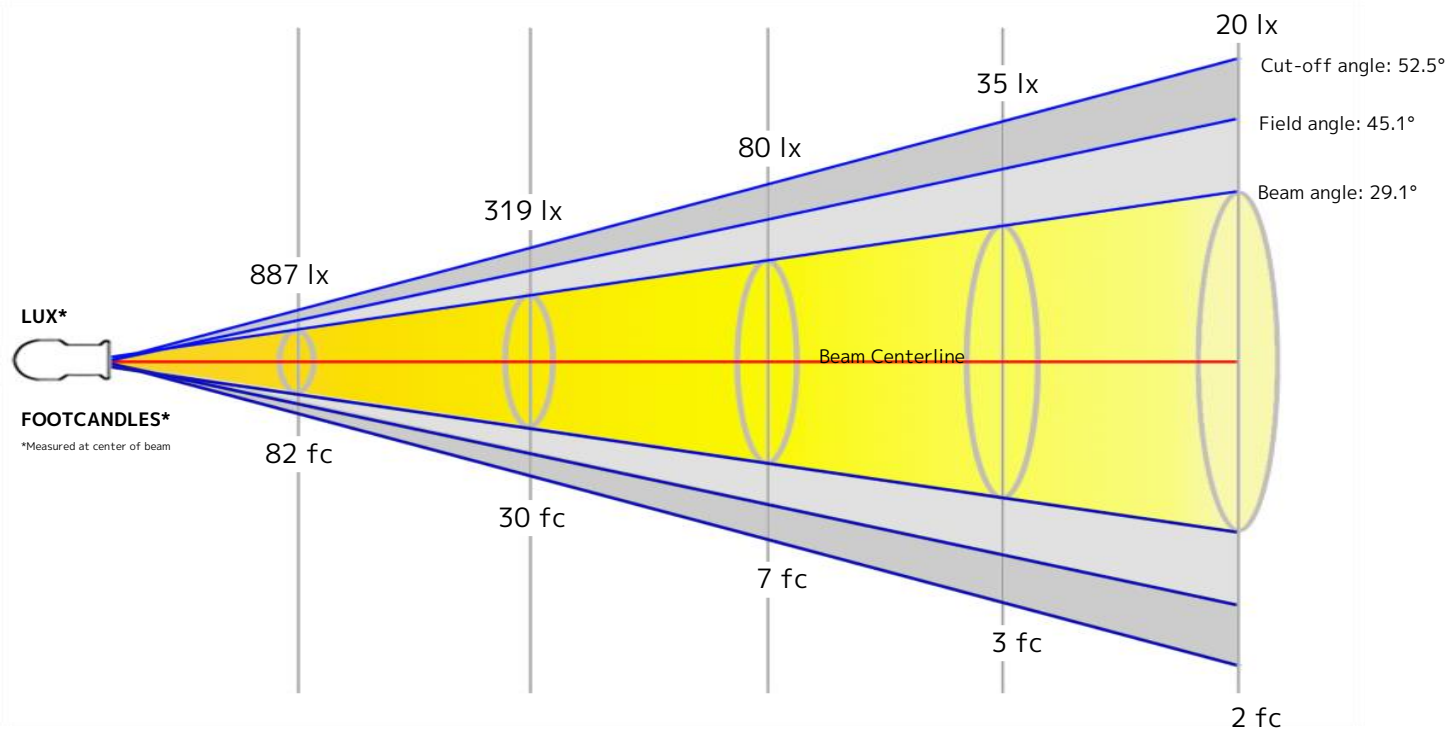
Power: 73.6 W

Supply Voltage: 120 V

Current: 0.619 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.6 ft	34.1 ft

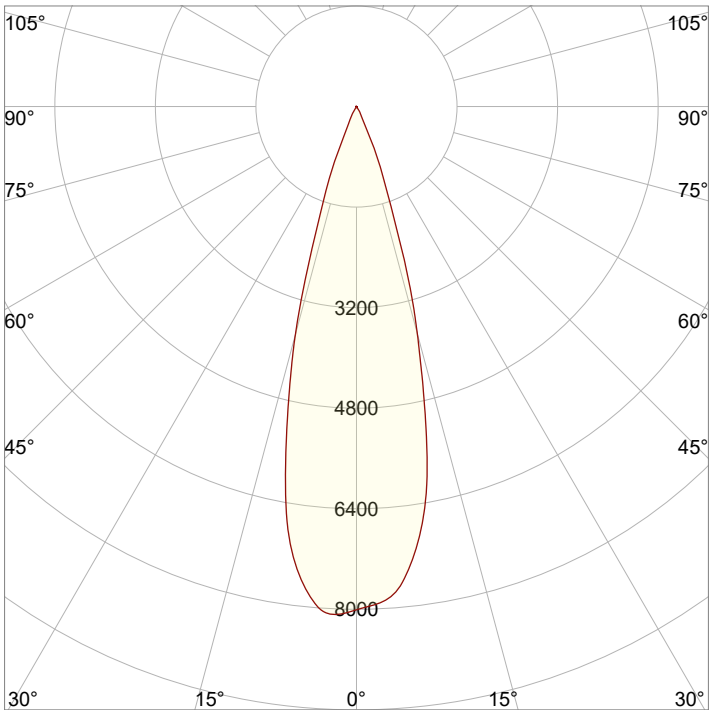
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	7985	1996	887	499	319	222	163	125	99	80	66	55	47	41	35	31	28	25	22	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
FC	741.8	185.5	82.4	46.4	29.7	20.6	15.1	11.6	9.2	7.4	6.1	5.2	4.4	3.8	3.3	2.9	2.6	2.3	2.1	1.9

Measurement Date: 9/13/2024

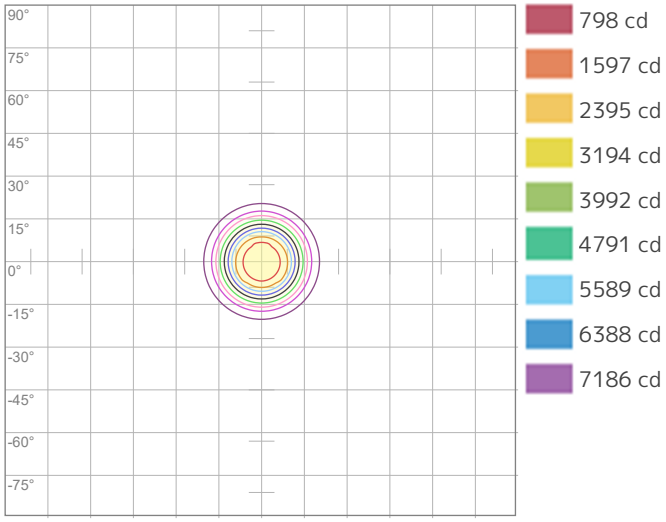
KL FRESNEL 4 FC (Zoom 50 7500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45.1°
Cutoff Angle - 2.5%
52.5°

ISO Diagrams

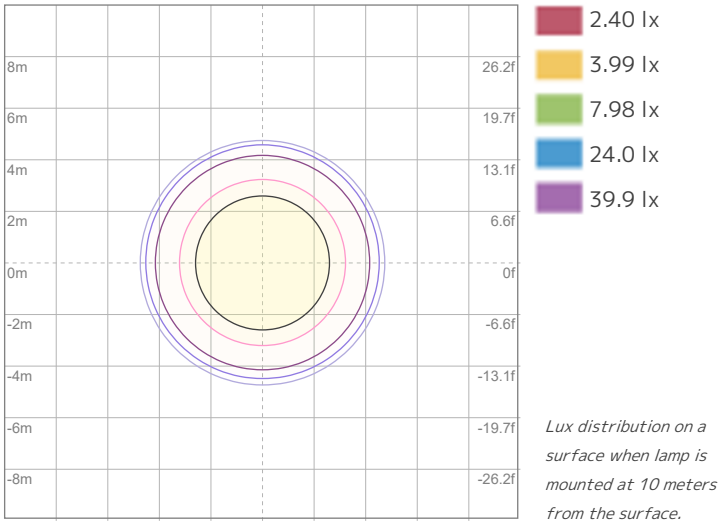


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 7985 cd



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

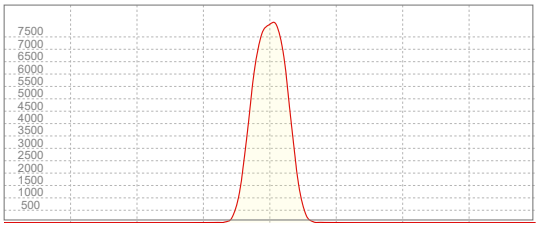
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 79.8 lx

Linear Distribution



Peak Candela

7986 cd

Calculate Center Beam Intensities

lux = 7986 / distance(m)^2

fc = 7986 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 8500K)

Key Measurements

Output

Total Lumen Output: 2033 lm

Peak Intensity: 8604 cd

Beam

Beam Angle (50%): 29°

Field Angle (10%): 45.1°

Cutoff Angle (2.5%): 52.5°

Color

Color Temperature: 7820 K

CRI: 81.9

TLCI: 63

TM30 R_F: 79.8

TM30 R_g: 94.7

Power Details

Efficacy: 26 Lumen/Watt

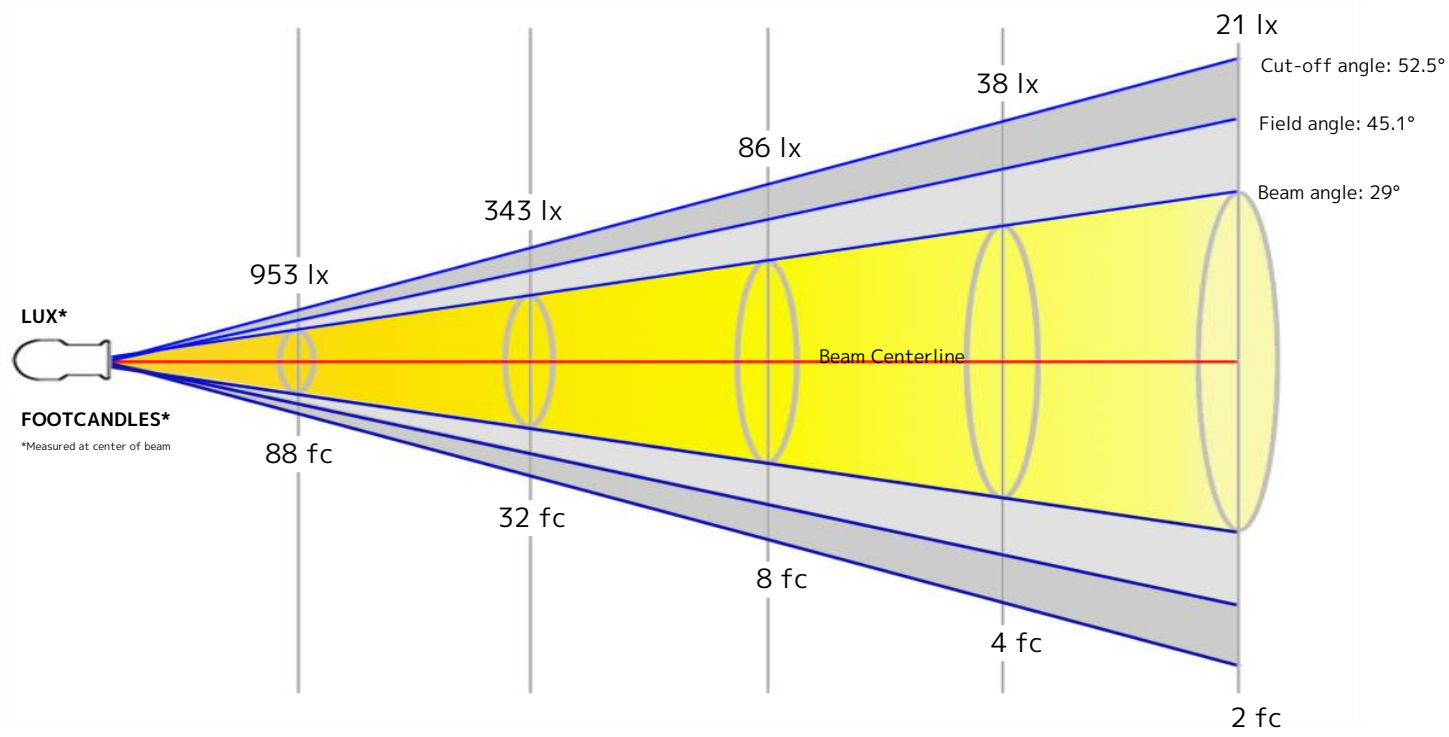
Power: 78.4 W

Supply Voltage: 120 V

Current: 0.660 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.3 m



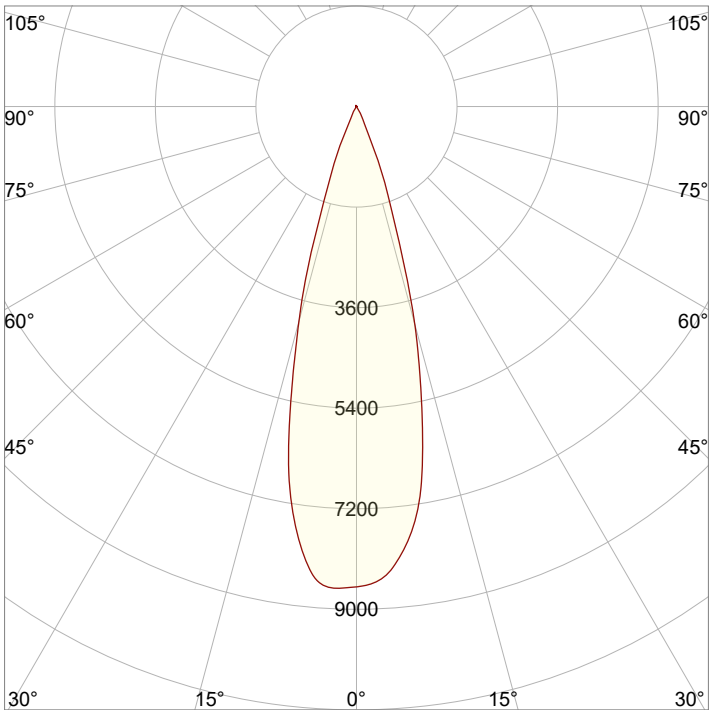
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.4 ft	33.9 ft

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
LX	8573	2143	953	536	343	238	175	134	106	86	71	60	51	44	38	33	30	26	24	21
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
FC	796.5	199.1	88.5	49.8	31.9	22.1	16.3	12.4	9.8	8	6.6	5.5	4.7	4.1	3.5	3.1	2.8	2.5	2.2	2

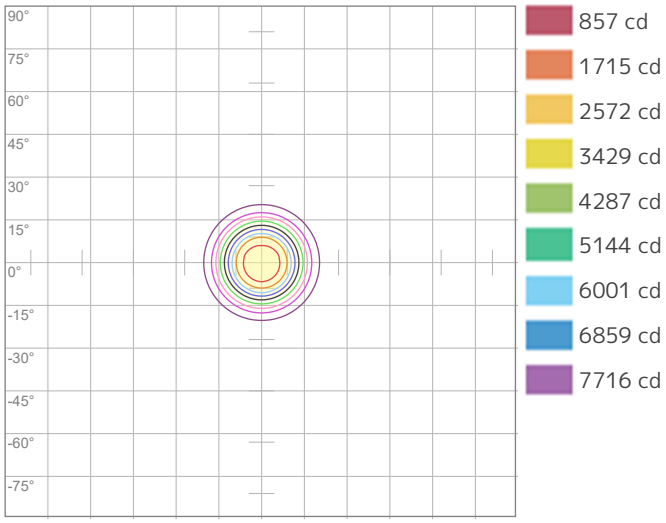
Measurement Date: 9/13/2024

Angular Distribution



Beam Angle - 50%
29°
Field Angle - 10%
45.1°
Cutoff Angle - 2.5%
52.5°

ISO Diagrams

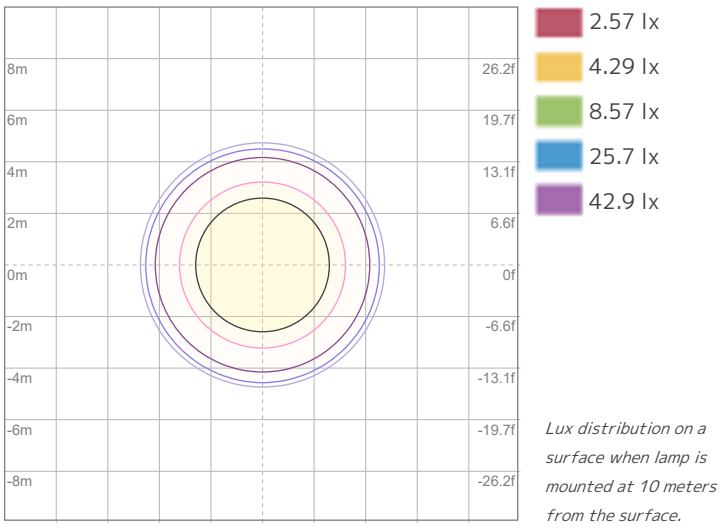


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8573 cd



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

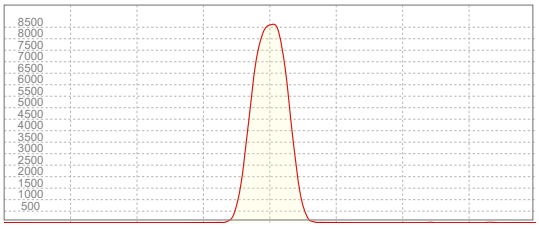
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 85.7 lx

Linear Distribution



Peak Candela

8604 cd

Calculate Center Beam Intensities

lux = 8604 / distance(m)^2

fc = 8604 / distance(ft)^2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 8500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 2014 lm

Peak Intensity: 8460 cd

Beam

Beam Angle (50%): 29.1°

Field Angle (10%): 45°

Cutoff Angle (2.5%): 52.6°

Color

Color Temperature: 8192 K

CRI: 89.5

TLCI: 90

TM30 R_F: 86.5

TM30 R_g: 99.7

Power Details

Efficacy: 26 Lumen/Watt

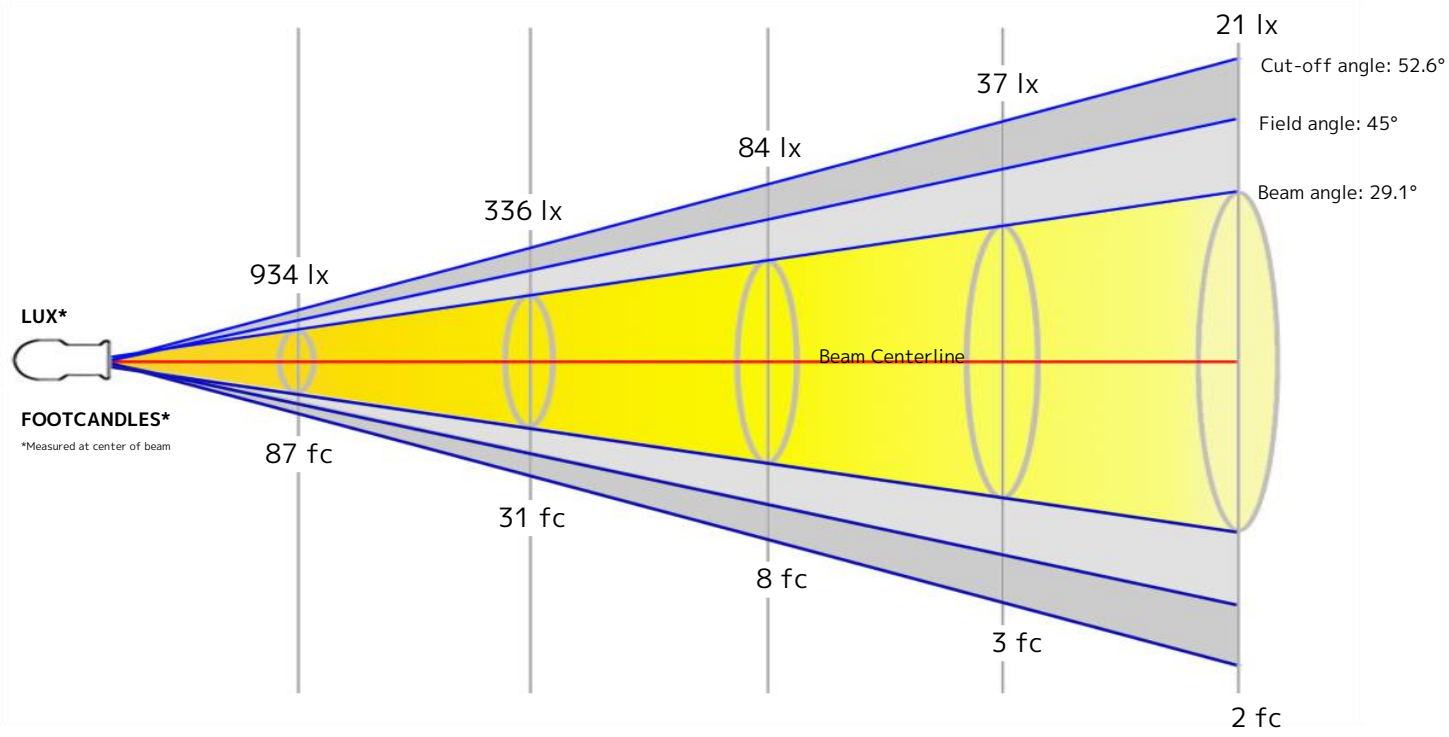
Power: 76.0 W

Supply Voltage: 120 V

Current: 0.641 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	1.6 m	2.6 m	5.2 m	7.8 m	10.4 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	5.1 ft	8.5 ft	17 ft	25.6 ft	34.1 ft

Beam Intensities from 1-20m

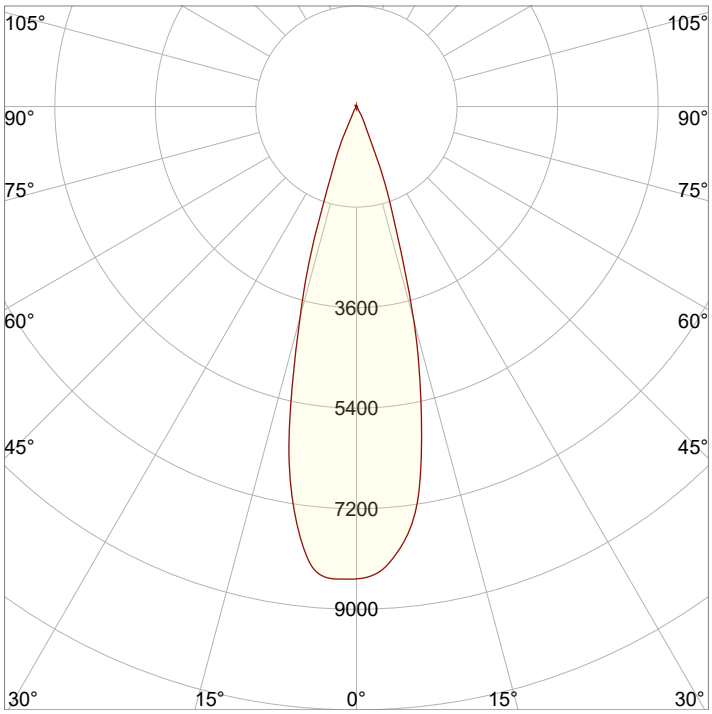
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	8410	2103	934	526	336	234	172	131	104	84	70	58	50	43	37	33	29	26	23	21
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
FC	781.3	195.3	86.8	48.8	31.3	21.7	15.9	12.2	9.6	7.8	6.5	5.4	4.6	4	3.5	3.1	2.7	2.4	2.2	2

Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Zoom 50 8500K- Highest Fidelity)

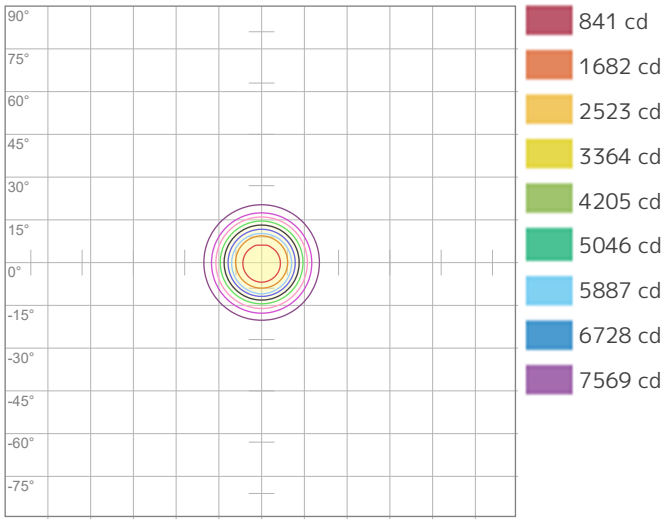
Prepared For ELATION PROFESSIONAL

Angular Distribution



Beam Angle - 50%
29.1°
Field Angle - 10%
45°
Cutoff Angle - 2.5%
52.6°

ISO Diagrams

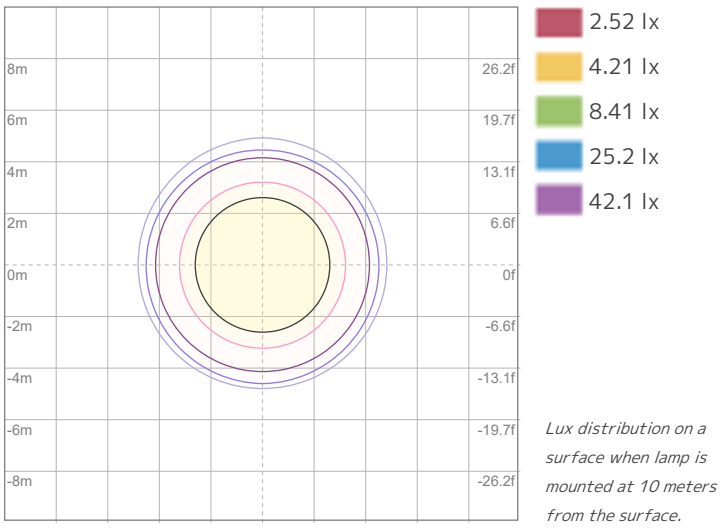


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 8410 cd



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

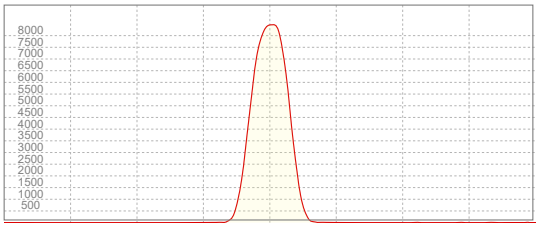
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 84.1 lx

Linear Distribution



Peak Candela

8460 cd

Calculate Center Beam Intensities

lux = 8460 / distance(m)^2

fc = 8460 / distance(ft)^2

Measurement Date: 9/13/2024

ELATION XL FRESNEL 4 FC (Zoom Out Full Output)

VISO SYSTEMS Prepared For ELATION PROFESSIONAL

Key Measurements

Output

Total Lumen Output: 2075 lm

Peak Intensity: 3301 cd

Beam

Beam Angle (50%): 47.6°

Field Angle (10%): 72.8°

Cutoff Angle (2.5%): 84.4°

Color

Color Temperature: 5940 K

CRI: 91.9

TLCI: 92

TM30 R_F: 89.3

TM30 R_g: 102.5

Power Details

Efficacy: 27 Lumen/Watt

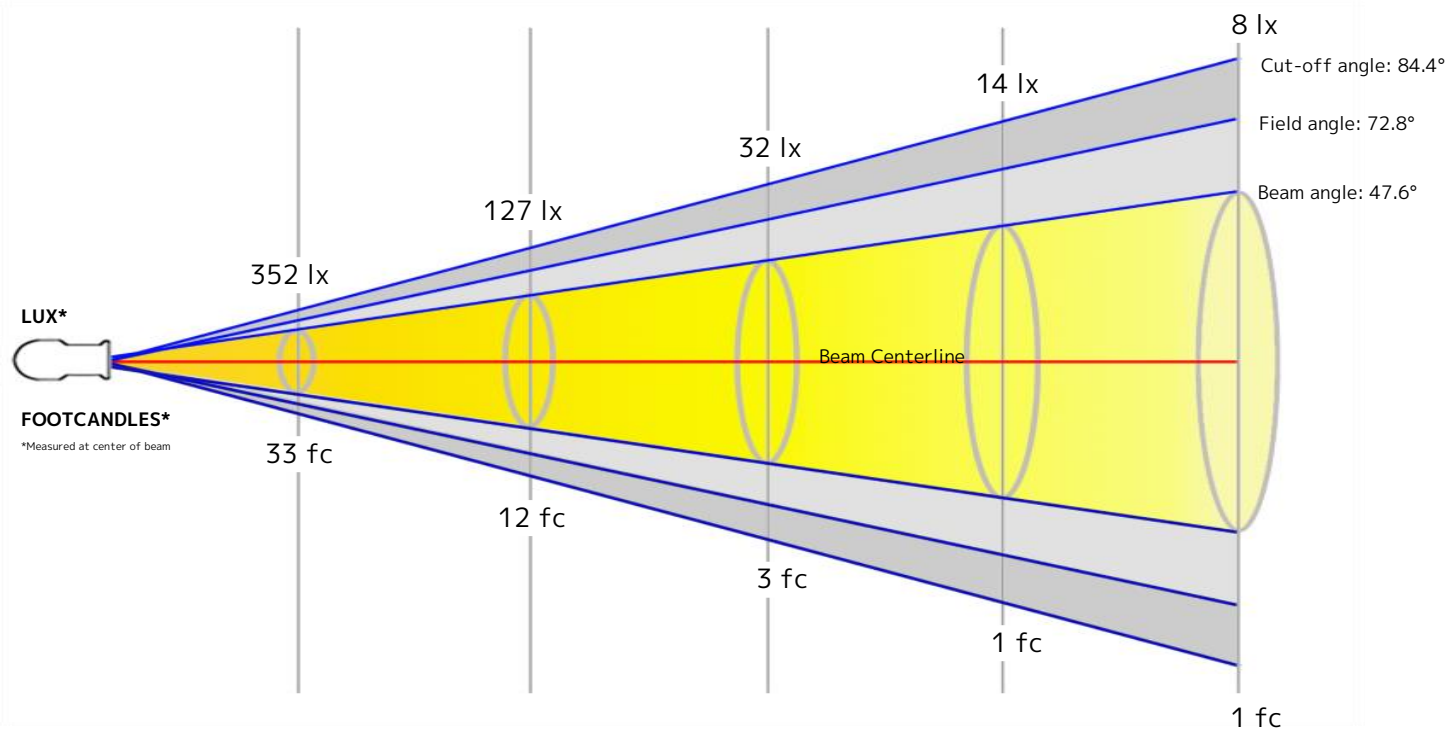
Power: 77.9 W

Supply Voltage: 120 V

Current: 0.656 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.6 m



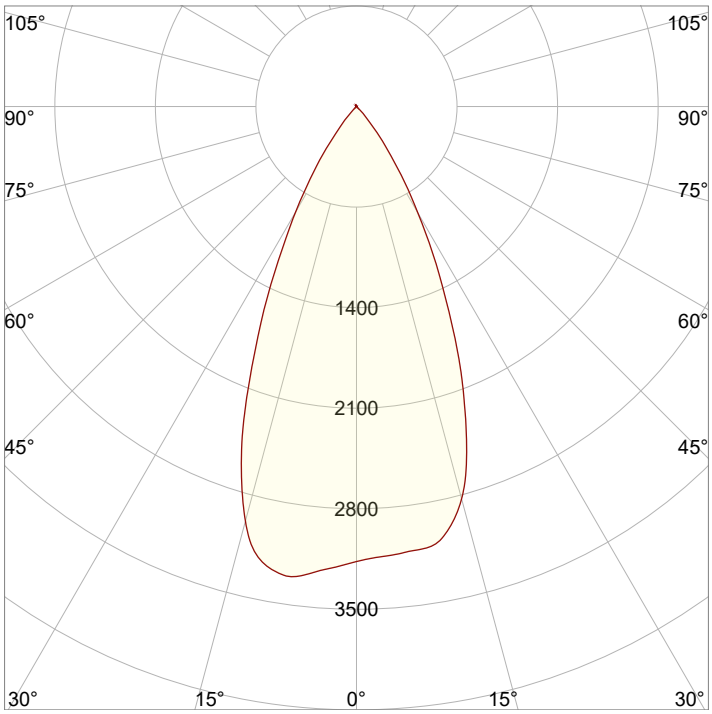
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.6 ft	14.5 ft	28.9 ft	43.4 ft	57.9 ft

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
LX	3171	793	352	198	127	88	65	50	39	32	26	22	19	16	14	12	11	10	9	8
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
FC	294.6	73.6	32.7	18.4	11.8	8.2	6	4.6	3.6	2.9	2.4	2	1.7	1.5	1.3	1.2	1	0.9	0.8	0.7

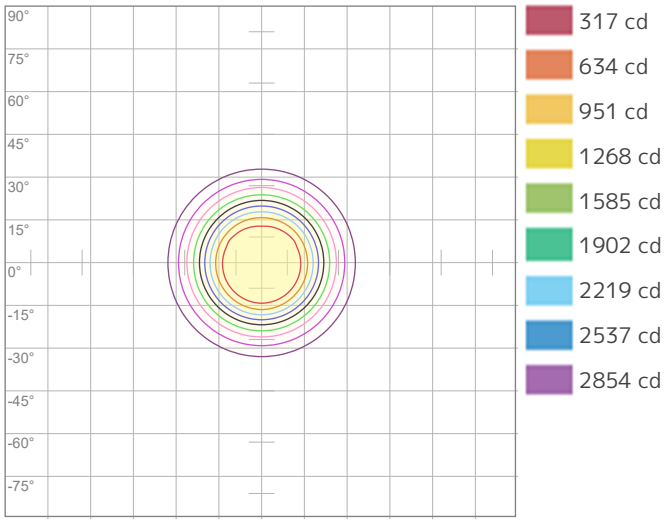
Measurement Date: 9/11/2024

Angular Distribution



Beam Angle - 50%
47.6°
Field Angle - 10%
72.8°
Cutoff Angle - 2.5%
84.4°

ISO Diagrams

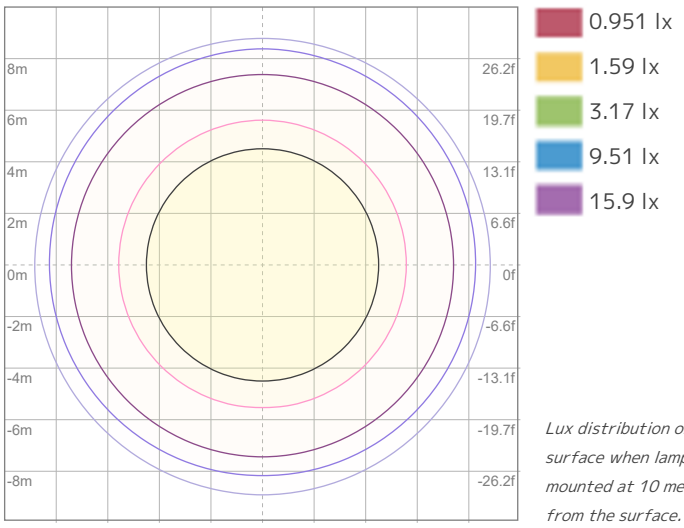


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3171 cd



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

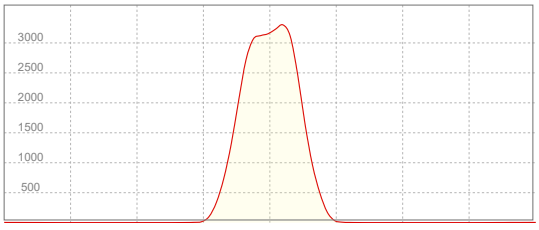
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 31.7 lx

Linear Distribution



Peak Candela
3301 cd

Calculate Center Beam Intensities

lux = 3301 / distance(m)^2

fc = 3301 / distance(ft)^2

Measurement Date: 9/11/2024

KL FRESNEL 4 FC (Zoom Out 3200K)

Key Measurements

Output

Total Lumen Output: 2039 lm

Peak Intensity: 3246 cd

Beam

Beam Angle (50%): 47.6°

Field Angle (10%): 72.7°

Cutoff Angle (2.5%): 84.1°

Color

Color Temperature: 3172 K

CRI: 91.4

TLCI: 88

TM30 R_F: 90.7

TM30 R_g: 100.9

Power Details

Efficacy: 26 Lumen/Watt

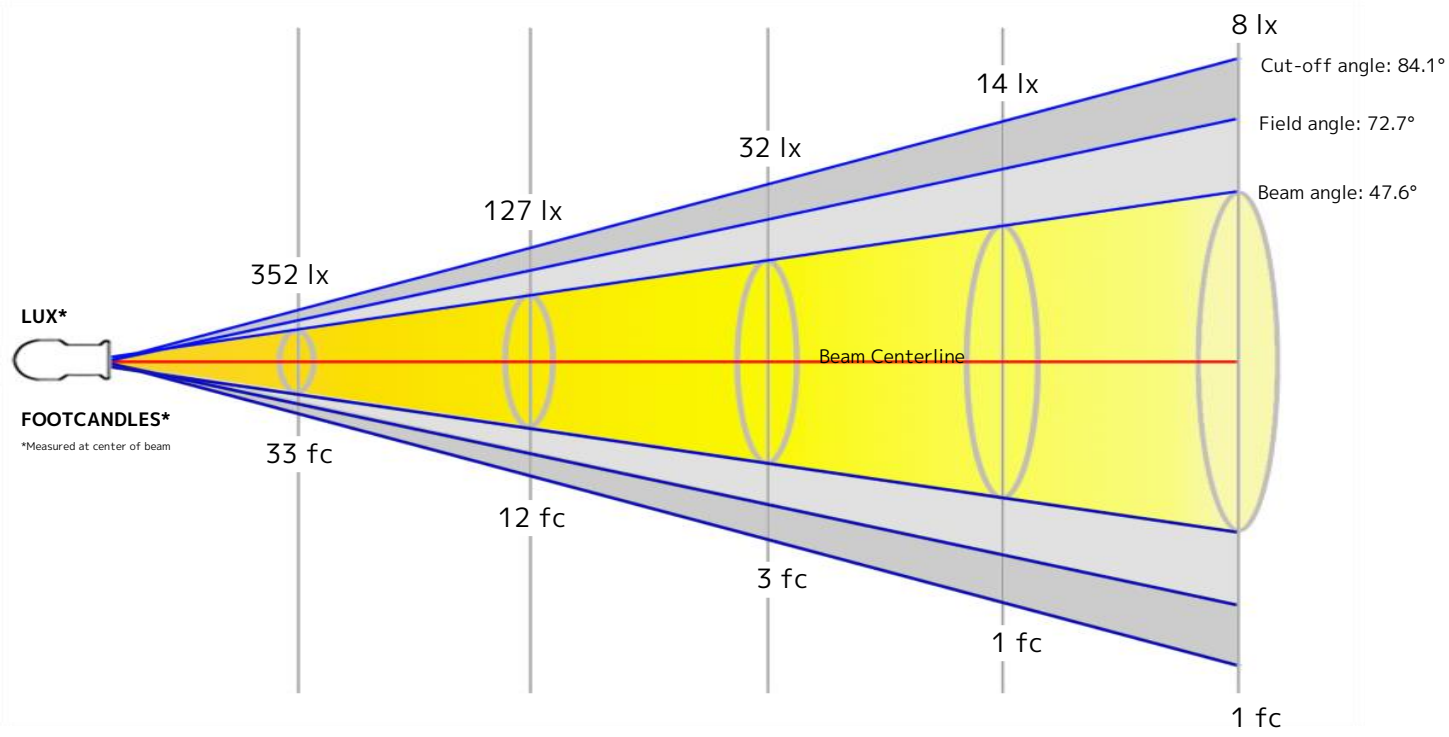
Power: 78.2 W

Supply Voltage: 120 V

Current: 0.659 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.7 m



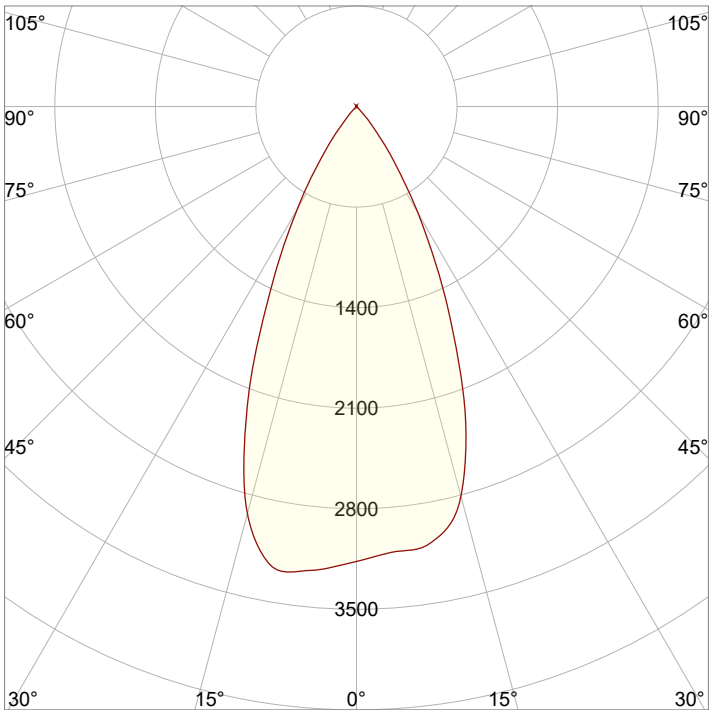
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.7 ft	14.5 ft	29 ft	43.4 ft	57.9 ft

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
LX	3167	792	352	198	127	88	65	49	39	32	26	22	19	16	14	12	11	10	9	8
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
FC	294.3	73.6	32.7	18.4	11.8	8.2	6	4.6	3.6	2.9	2.4	2	1.7	1.5	1.3	1.1	1	0.9	0.8	0.7

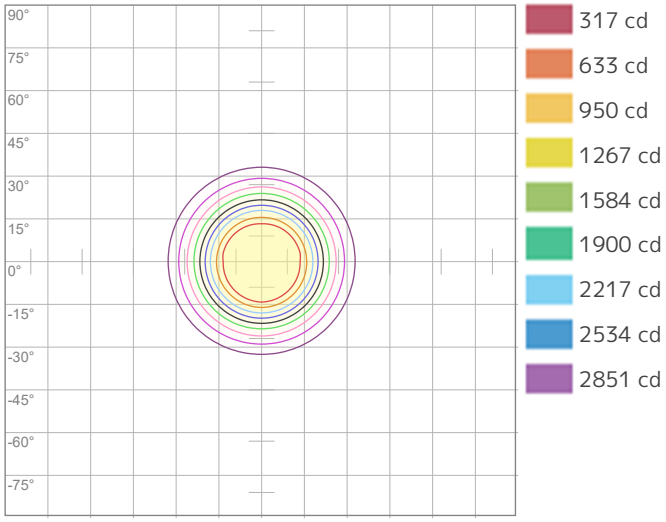
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
47.6°
Field Angle - 10%
72.7°
Cutoff Angle - 2.5%
84.1°

ISO Diagrams

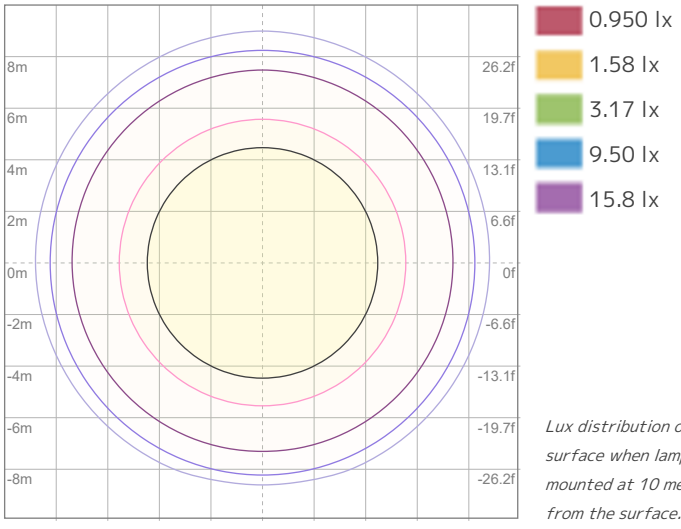


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3167 cd



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

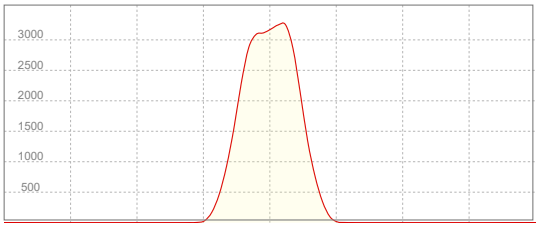
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 31.7 lx

Linear Distribution



Peak Candela

3246 cd

Calculate Center Beam Intensities

lux = 3246 / distance(m)^2

fc = 3246 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 3200K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 2032 lm

Peak Intensity: 3227 cd

Beam

Beam Angle (50%): 47.7°

Field Angle (10%): 72.8°

Cutoff Angle (2.5%): 83.8°

Color

Color Temperature: 3183 K

CRI: 92.3

TLCI: 89

TM30 R_F: 91.2

TM30 R_g: 101.4

Power Details

Efficacy: 26 Lumen/Watt

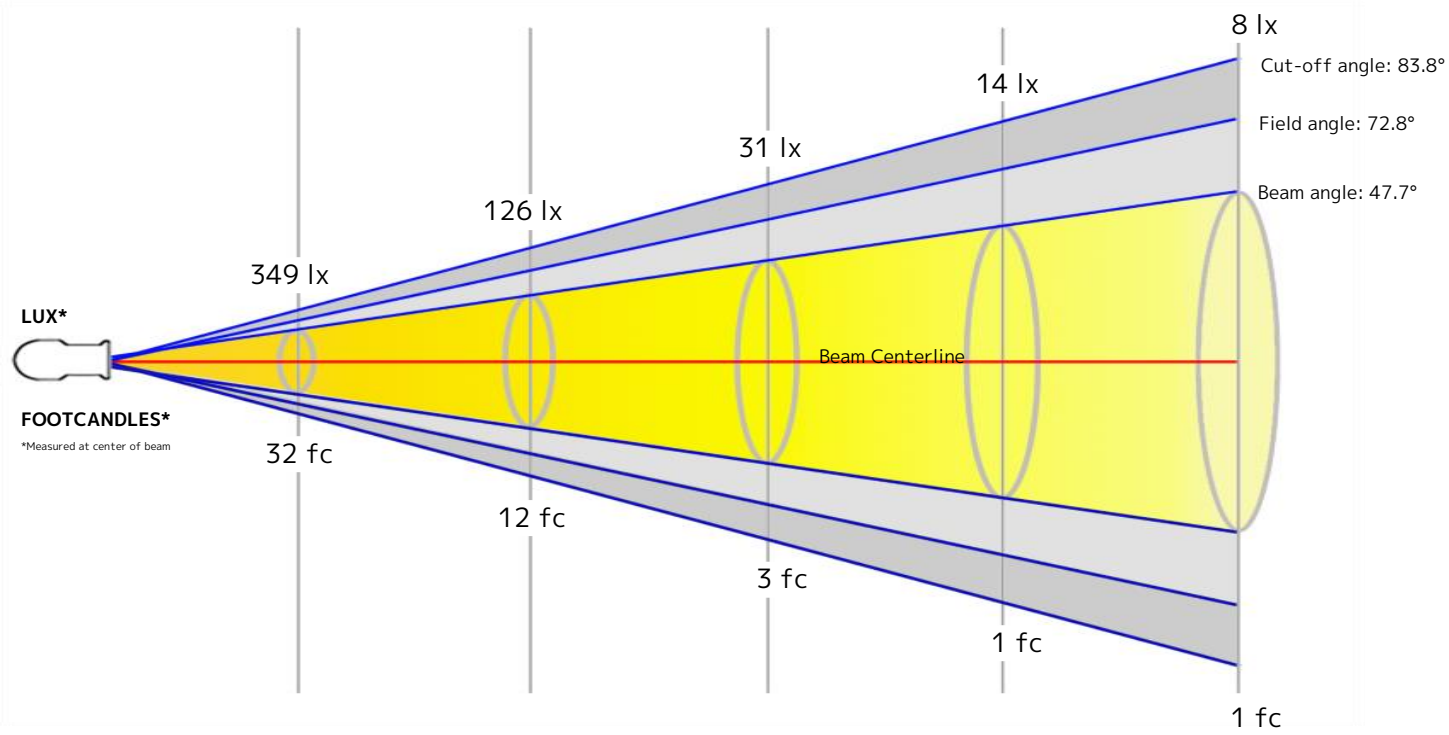
Power: 78.2 W

Supply Voltage: 120 V

Current: 0.661 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.7 m	4.4 m	8.8 m	13.3 m	17.7 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.7 ft	14.5 ft	29 ft	43.5 ft	58 ft

Beam Intensities from 1-20m

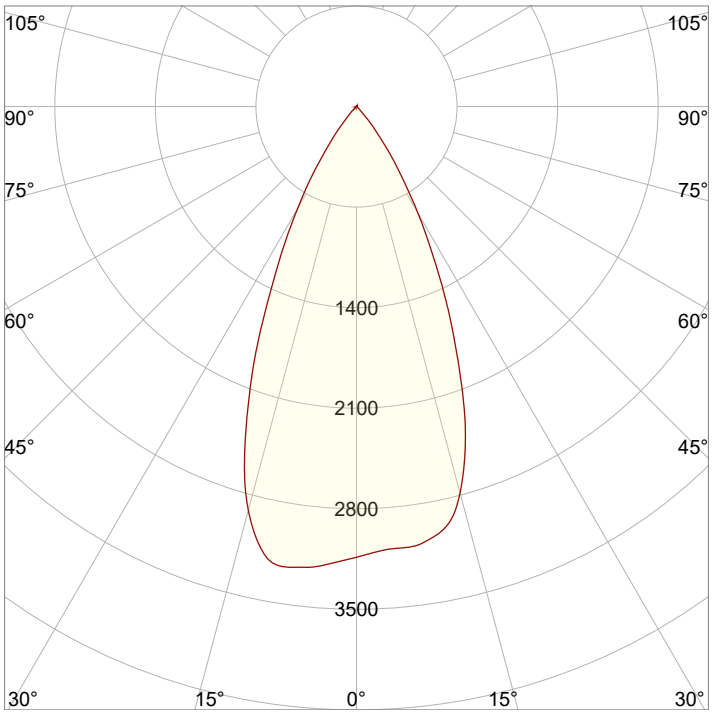
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	3139	785	349	196	126	87	64	49	39	31	26	22	19	16	14	12	11	10	9	8
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
FC	291.6	72.9	32.4	18.2	11.7	8.1	6	4.6	3.6	2.9	2.4	2	1.7	1.5	1.3	1.1	1	0.9	0.8	0.7

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 3200K- Highest Fidelity)

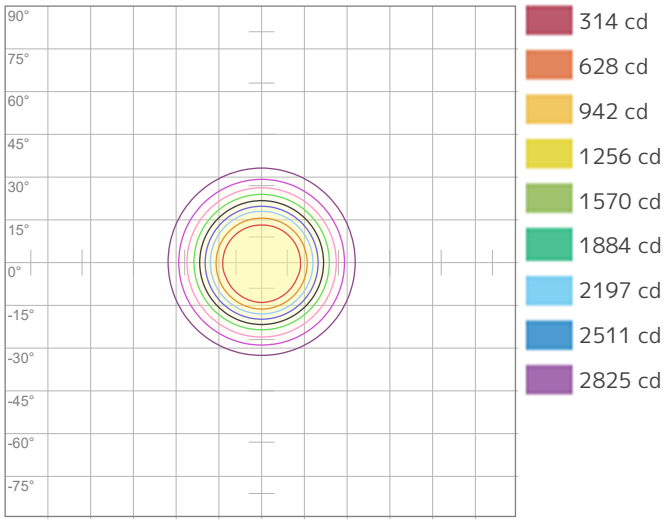
Prepared For ELATION PROFESSIONAL

Angular Distribution



Beam Angle - 50%
47.7°
Field Angle - 10%
72.8°
Cutoff Angle - 2.5%
83.8°

ISO Diagrams

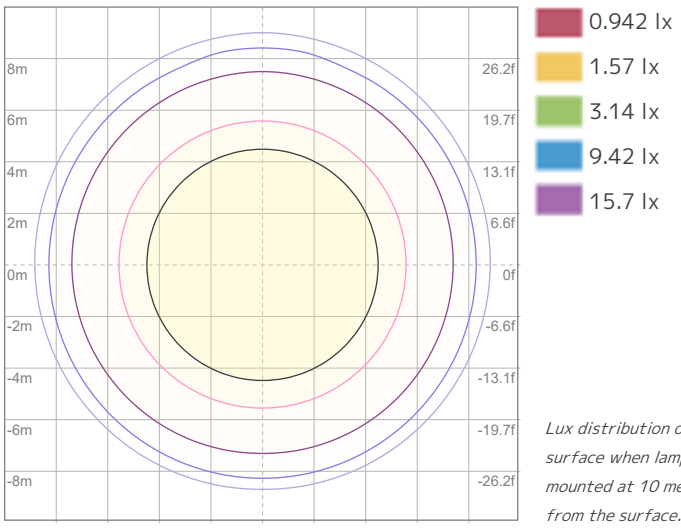


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3139 cd



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

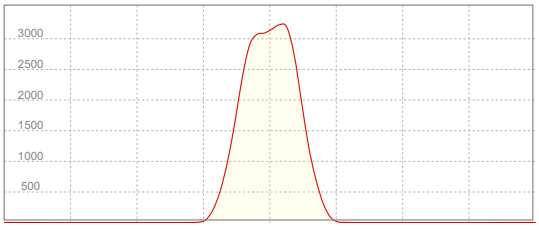
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 31.4 lx

Linear Distribution



Peak Candela

3227 cd

Calculate Center Beam Intensities

lux = 3227 / distance(m)^2

fc = 3227 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 4500K)

Prepared For ELATION PROFESSIONAL

Key Measurements

Output

Total Lumen Output: 2174 lm

Peak Intensity: 3468 cd

Beam

Beam Angle (50%): 47.5°

Field Angle (10%): 72.9°

Cutoff Angle (2.5%): 84.7°

Color

Color Temperature: 4464 K

CRI: 89.1

TLCI: 87

TM30 R_F: 87.6

TM30 R_g: 100.7

Power Details

Efficacy: 28 Lumen/Watt

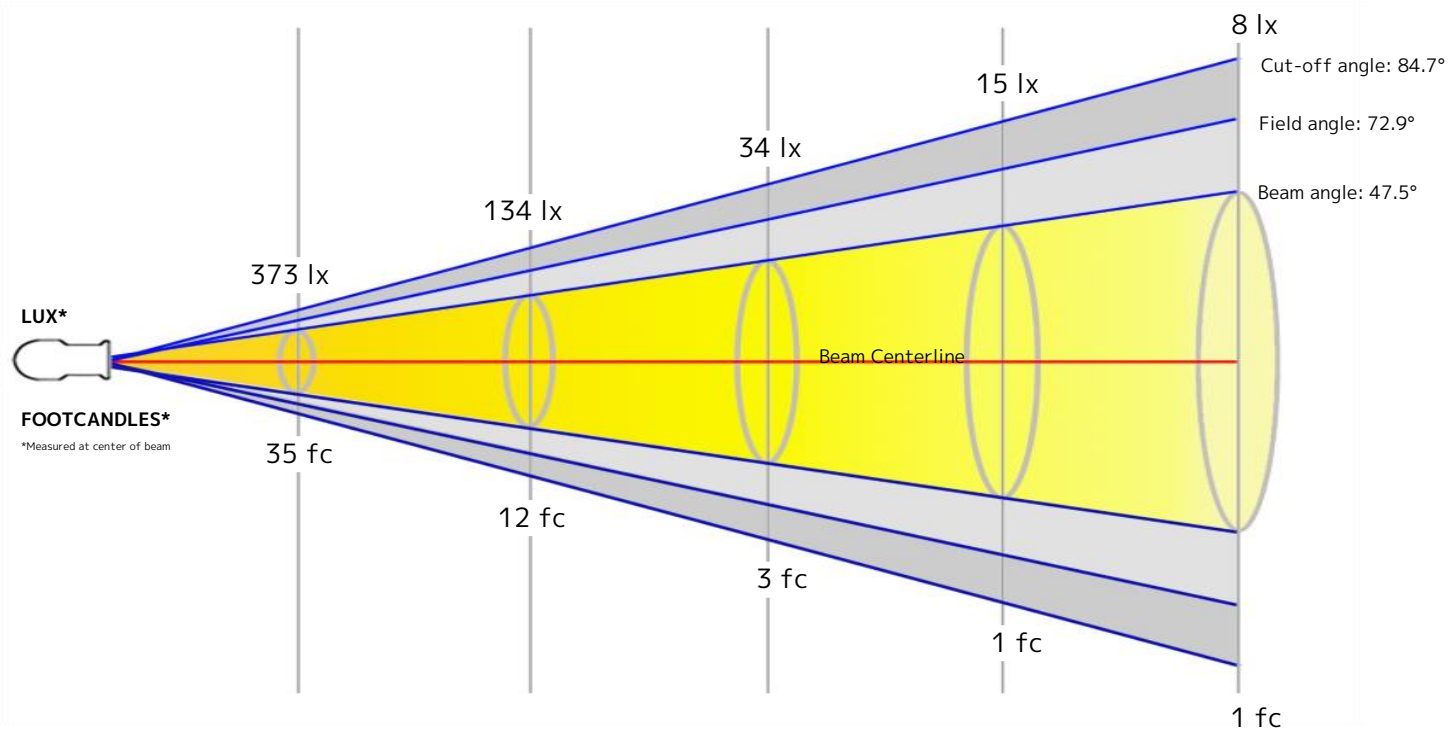
Power: 77.7 W

Supply Voltage: 119 V

Current: 0.662 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.6 m



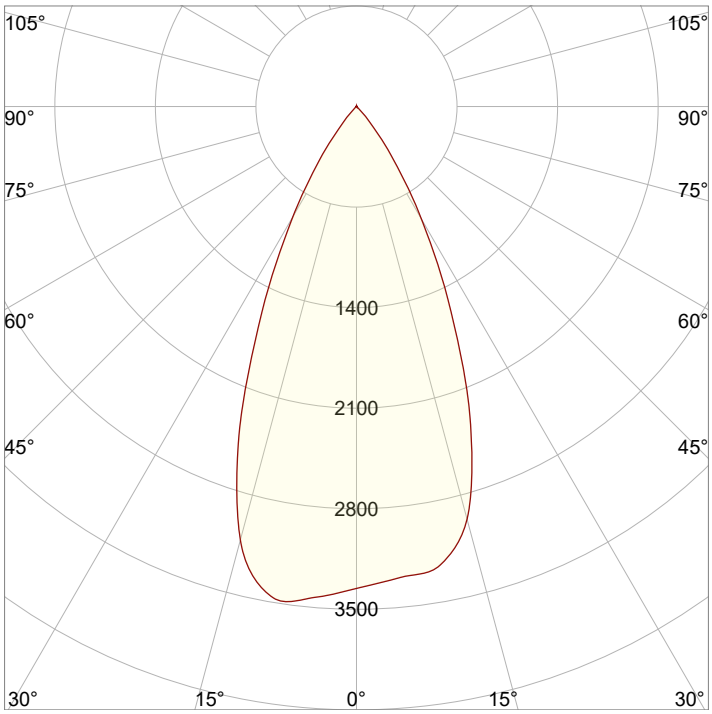
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.6 ft	14.4 ft	28.9 ft	43.3 ft	57.7 ft

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
LX	3355	839	373	210	134	93	68	52	41	34	28	23	20	17	15	13	12	10	9	8
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
FC	311.7	77.9	34.6	19.5	12.5	8.7	6.4	4.9	3.8	3.1	2.6	2.2	1.8	1.6	1.4	1.2	1.1	1	0.9	0.8

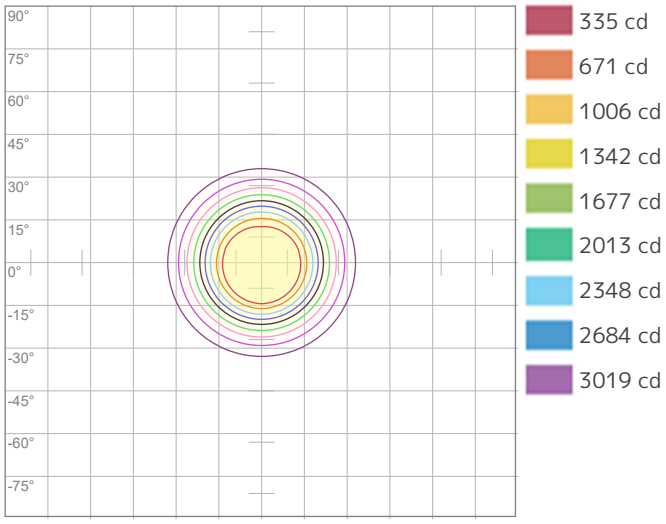
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
47.5°
Field Angle - 10%
72.9°
Cutoff Angle - 2.5%
84.7°

ISO Diagrams

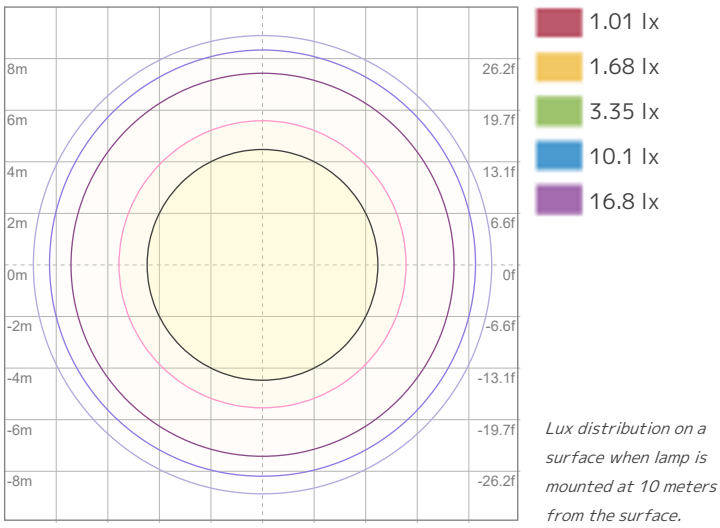


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3355 cd



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

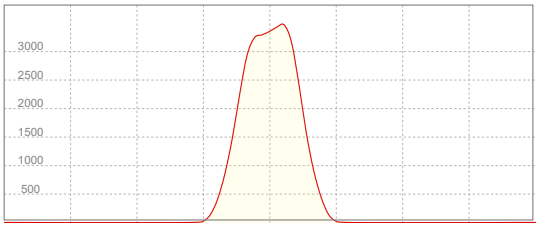
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 33.5 lx

Linear Distribution



Peak Candela
3468 cd

Calculate Center Beam Intensities

lux = 3468 / distance(m)^2

fc = 3468 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 4500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 2105 lm

Peak Intensity: 3376 cd

Beam

Beam Angle (50%): 47.5°

Field Angle (10%): 72.8°

Cutoff Angle (2.5%): 84.4°

Color

Color Temperature: 4527 K

CRI: 91.4

TLCI: 89

TM30 R_F: 89.2

TM30 R_g: 102.0

Power Details

Efficacy: 27 Lumen/Watt

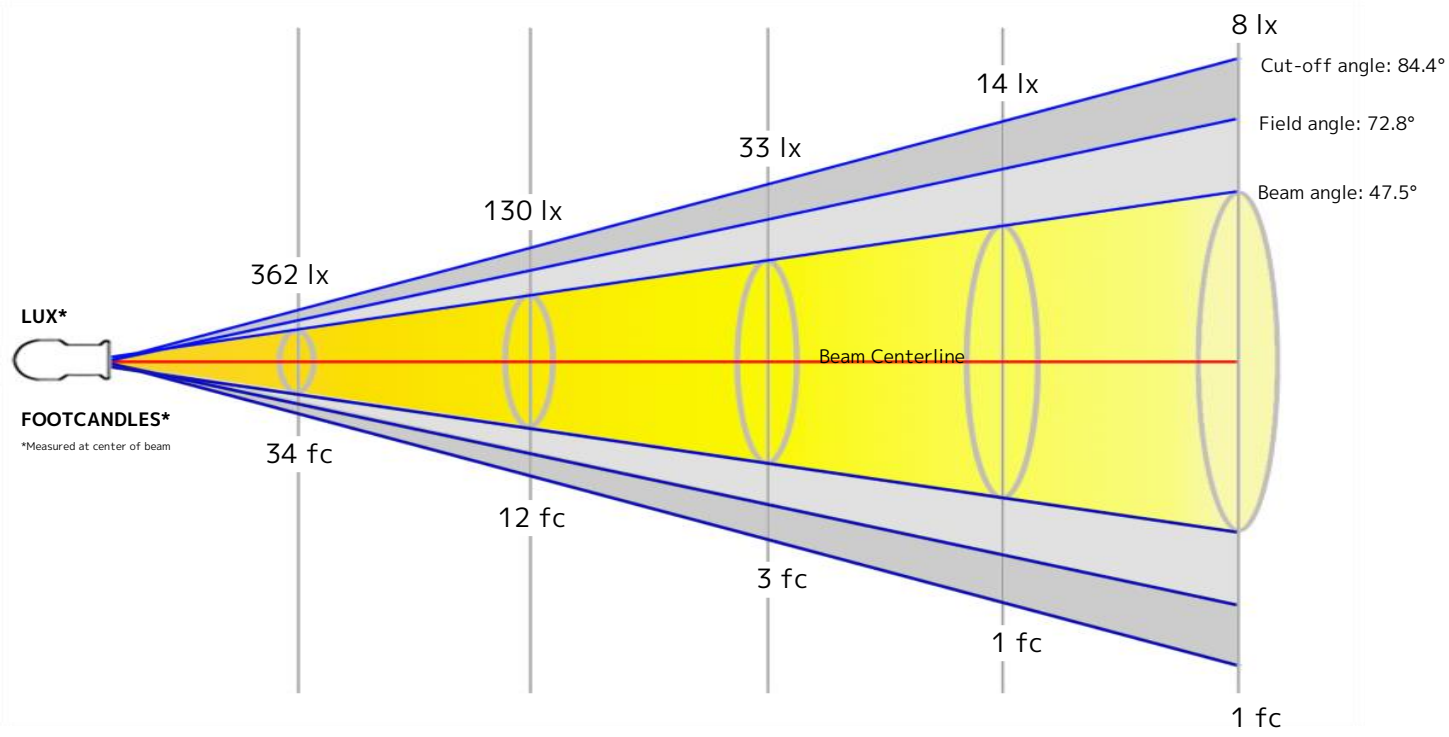
Power: 77.7 W

Supply Voltage: 119 V

Current: 0.660 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.6 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.6 ft	14.4 ft	28.8 ft	43.3 ft	57.7 ft

Beam Intensities from 1-20m

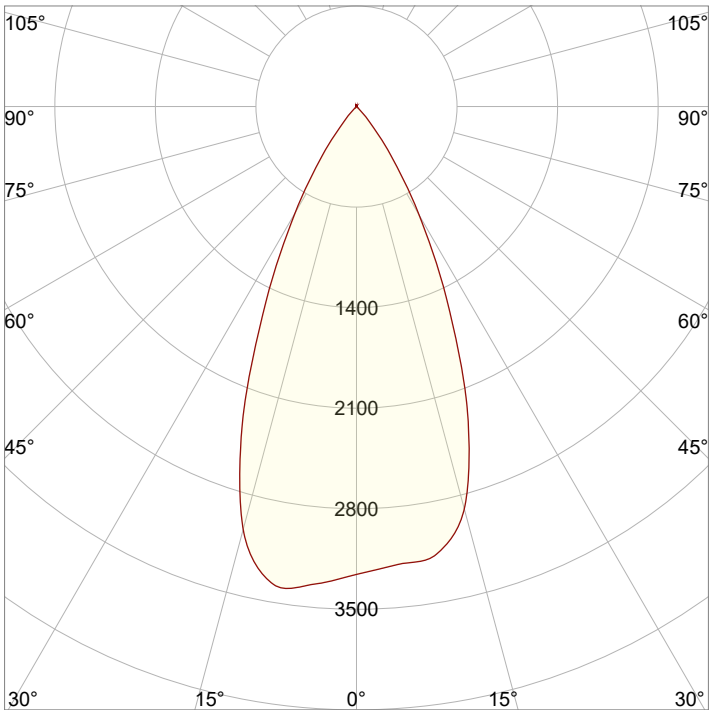
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	3257	814	362	204	130	90	66	51	40	33	27	23	19	17	14	13	11	10	9	8
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
FC	302.6	75.7	33.6	18.9	12.1	8.4	6.2	4.7	3.7	3	2.5	2.1	1.8	1.5	1.3	1.2	1	0.9	0.8	0.8

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 4500K- Highest Fidelity)

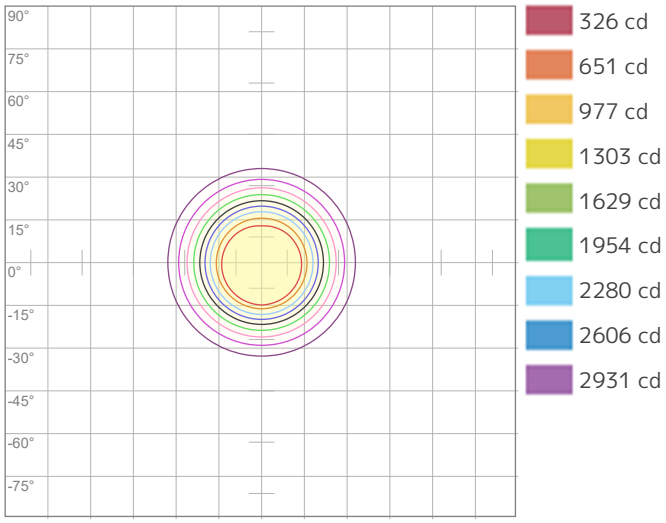
Prepared For ELATION PROFESSIONAL

Angular Distribution



Beam Angle - 50%
47.5°
Field Angle - 10%
72.8°
Cutoff Angle - 2.5%
84.4°

ISO Diagrams

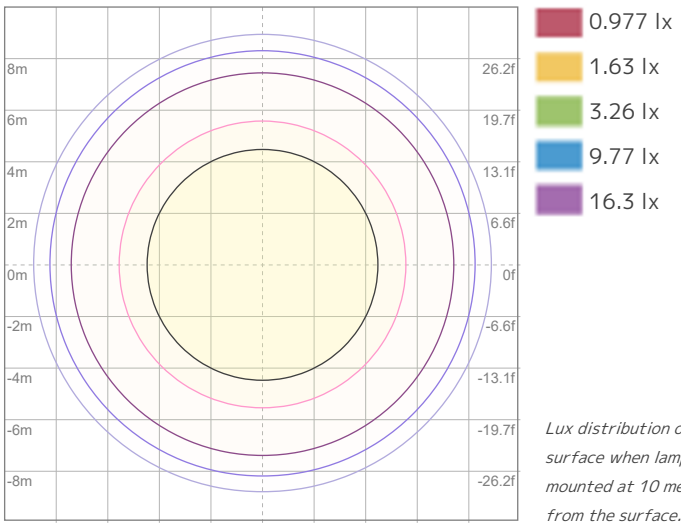


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3257 cd



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

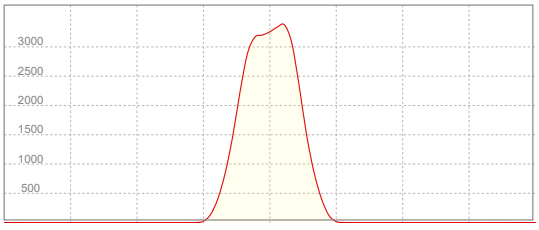
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 32.6 lx

Linear Distribution



Peak Candela

3376 cd

Calculate Center Beam Intensities

$lux = 3376 / distance(m)^2$

$fc = 3376 / distance(ft)^2$

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 6500K)

Key Measurements

Output

Total Lumen Output: 2054 lm

Peak Intensity: 3256 cd

Beam

Beam Angle (50%): 47.7°

Field Angle (10%): 72.8°

Cutoff Angle (2.5%): 83.9°

Color

Color Temperature: 6497 K

CRI: 91.0

TLCI: 91

TM30 R_F: 88.3

TM30 R_g: 101.7

Power Details

Efficacy: 27 Lumen/Watt

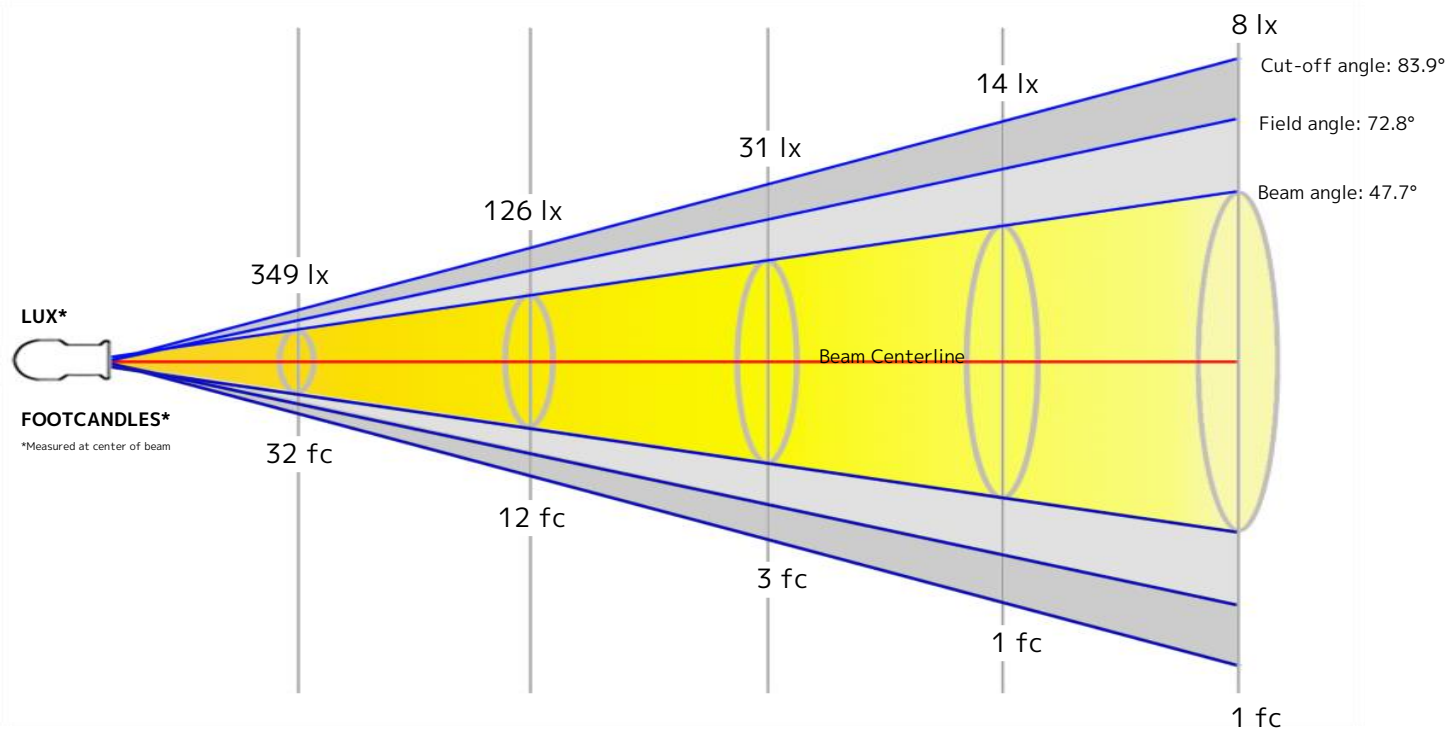
Power: 77.1 W

Supply Voltage: 119 V

Current: 0.655 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.7 m	4.4 m	8.8 m	13.3 m	17.7 m



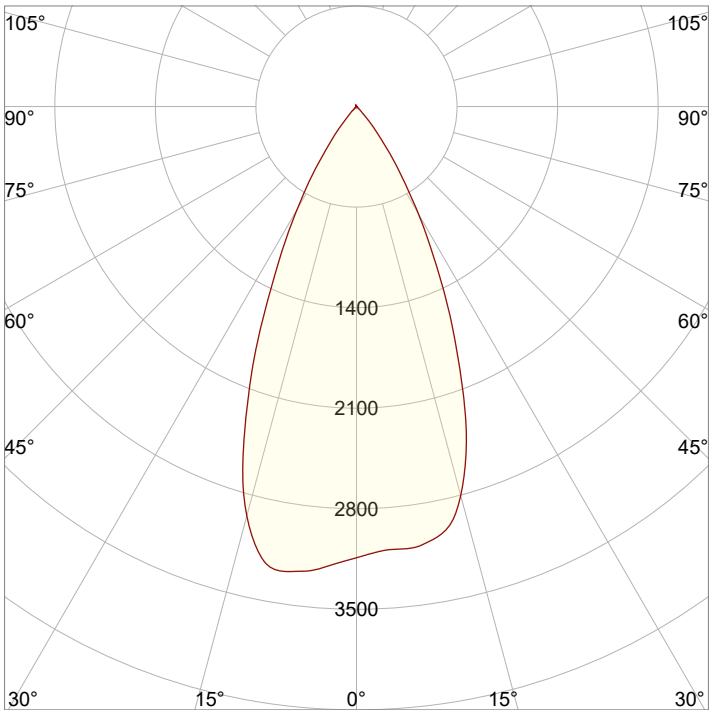
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.7 ft	14.5 ft	29 ft	43.5 ft	58 ft

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
LX	3144	786	349	197	126	87	64	49	39	31	26	22	19	16	14	12	11	10	9	8
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
FC	292.1	73	32.5	18.3	11.7	8.1	6	4.6	3.6	2.9	2.4	2	1.7	1.5	1.3	1.1	1	0.9	0.8	0.7

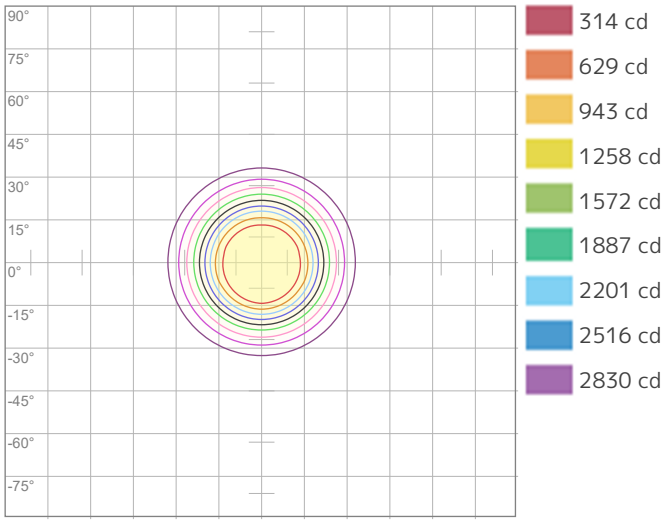
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
47.7°
Field Angle - 10%
72.8°
Cutoff Angle - 2.5%
83.9°

ISO Diagrams

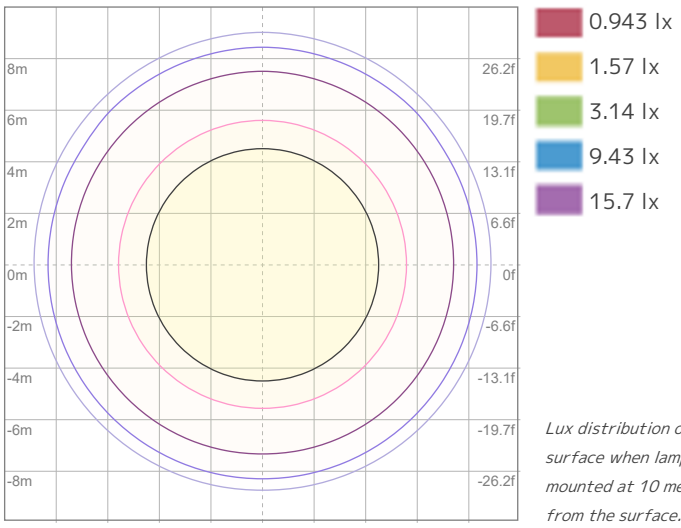


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3144 cd



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

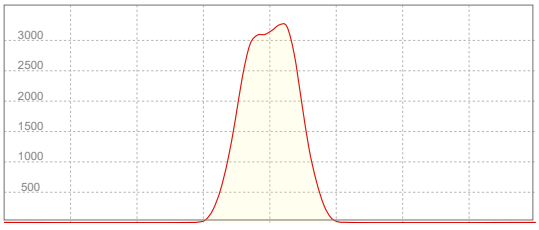
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 31.4 lx

Linear Distribution



Peak Candela

3256 cd

Calculate Center Beam Intensities

$lux = 3256 / distance(m)^2$

$fc = 3256 / distance(ft)^2$

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 6500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 1906 lm

Peak Intensity: 3054 cd

Beam

Beam Angle (50%): 47.5°

Field Angle (10%): 72.7°

Cutoff Angle (2.5%): 84.5°

Color

Color Temperature: 6540 K

CRI: 91.4

TLCI: 92

TM30 R_F: 88.6

TM30 R_g: 101.9

Power Details

Efficacy: 27 Lumen/Watt

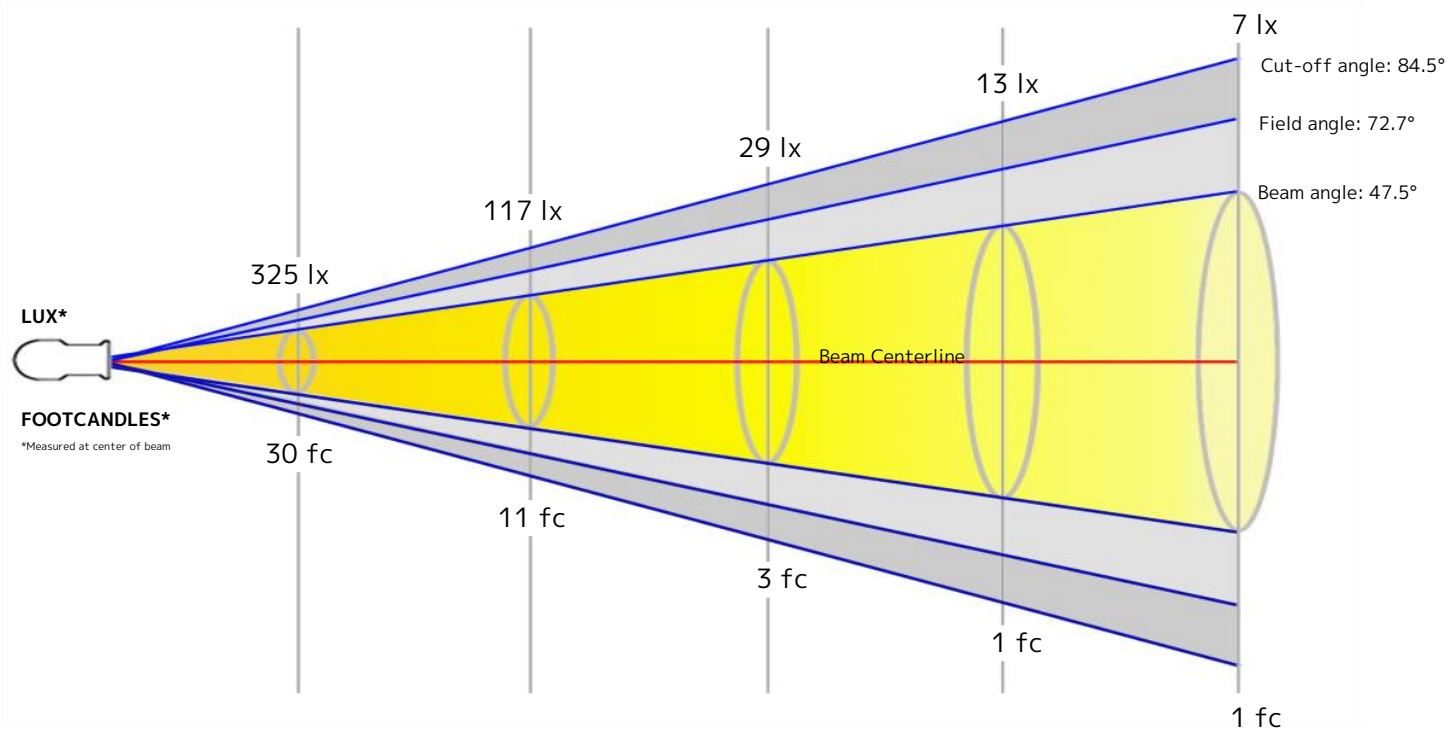
Power: 71.3 W

Supply Voltage: 118 V

Current: 0.610 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.6 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.6 ft	14.4 ft	28.8 ft	43.2 ft	57.7 ft

Beam Intensities from 1-20m

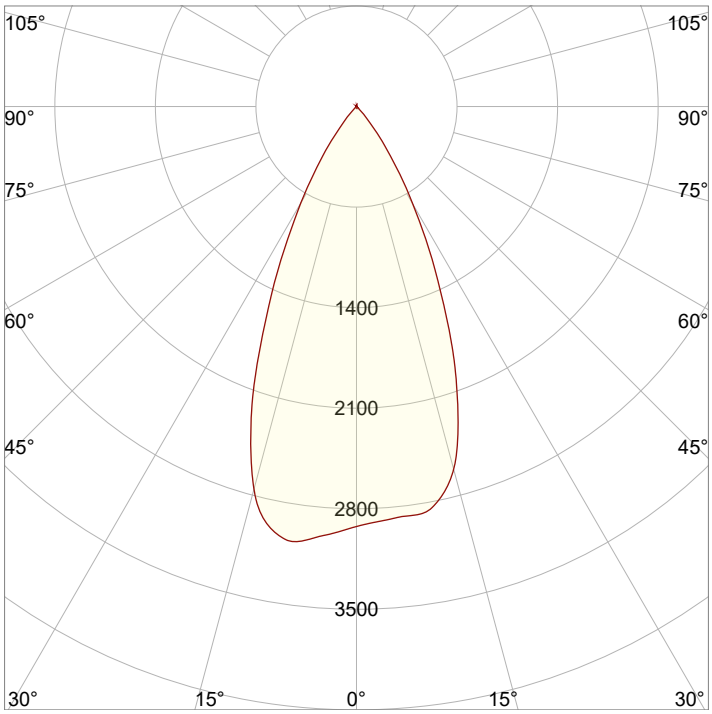
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	2925	731	325	183	117	81	60	46	36	29	24	20	17	15	13	11	10	9	8	7
FT	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
FC	271.8	67.9	30.2	17	10.9	7.5	5.5	4.2	3.4	2.7	2.2	1.9	1.6	1.4	1.2	1.1	0.9	0.8	0.8	0.7

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 6500K- Highest Fidelity)

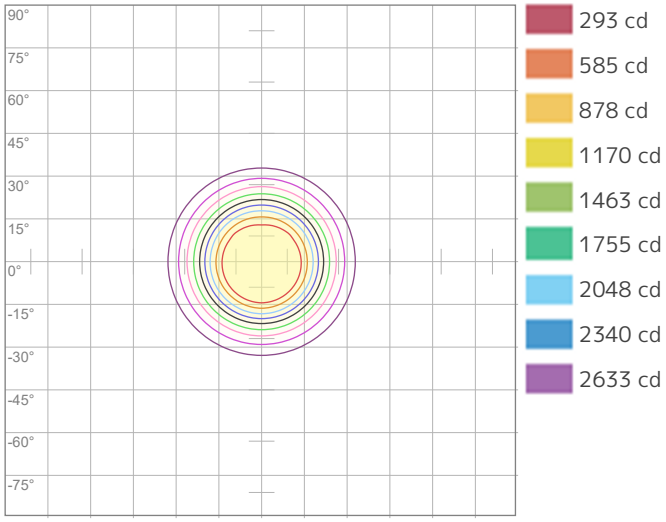
Prepared For ELATION PROFESSIONAL

Angular Distribution



Beam Angle - 50%
47.5°
Field Angle - 10%
72.7°
Cutoff Angle - 2.5%
84.5°

ISO Diagrams

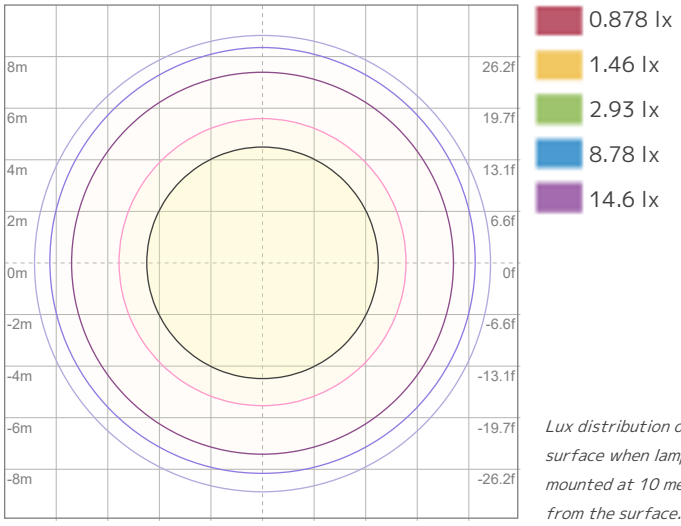


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 2925 cd



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

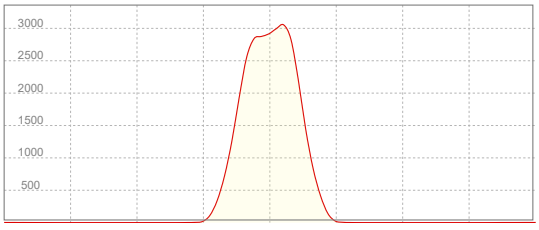
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 29.3 lx

Linear Distribution



Peak Candela

3054 cd

Calculate Center Beam Intensities

lux = 3054 / distance(m)^2

fc = 3054 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 8500K)

Prepared For ELATION PROFESSIONAL

Key Measurements

Output

Total Lumen Output: 2161 lm

Peak Intensity: 3463 cd

Beam

Beam Angle (50%): 47.5°

Field Angle (10%): 72.8°

Cutoff Angle (2.5%): 83.8°

Color

Color Temperature: 7805 K

CRI: 81.7

TLCI: 63

TM30 R_F: 79.8

TM30 R_g: 94.7

Power Details

Efficacy: 27 Lumen/Watt

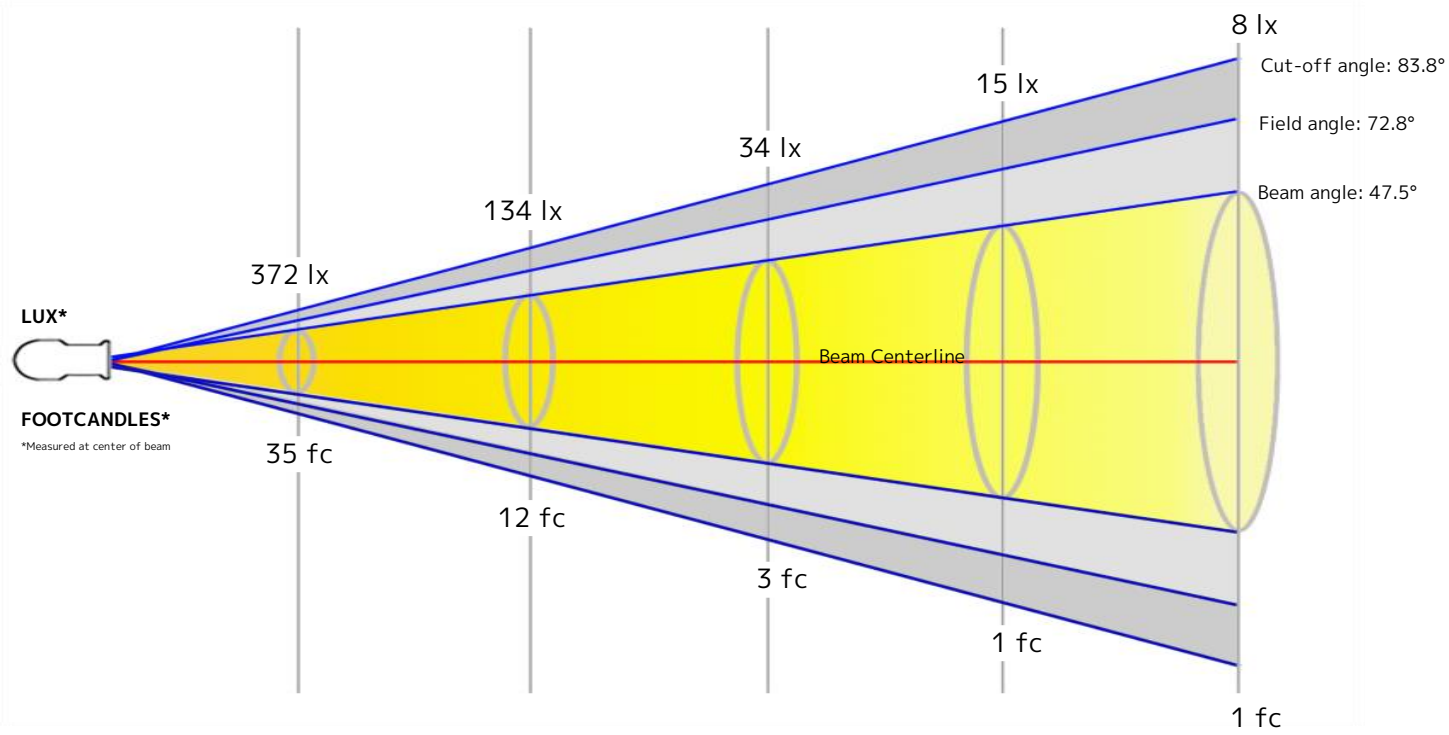
Power: 78.8 W

Supply Voltage: 119 V

Current: 0.670 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.6 m



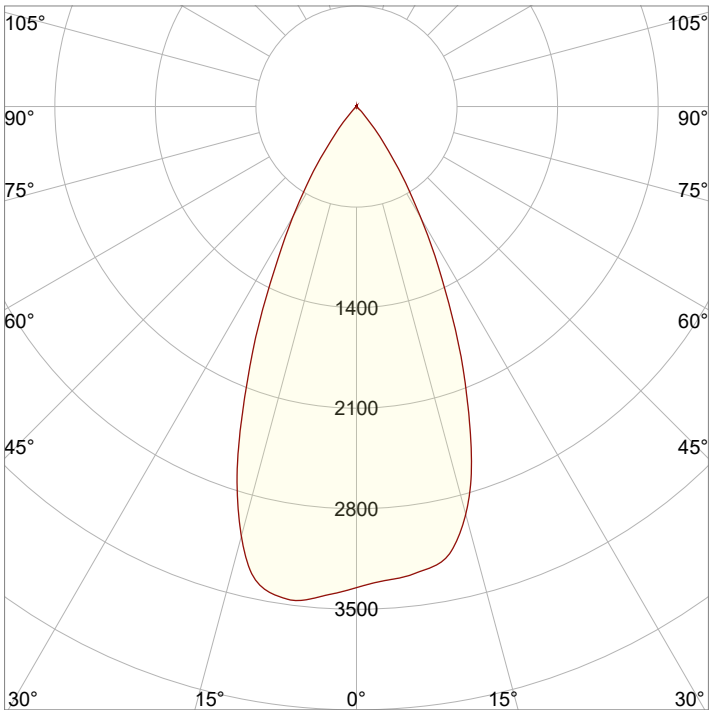
Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.6 ft	14.4 ft	28.9 ft	43.3 ft	57.8 ft

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
LX	3351	838	372	209	134	93	68	52	41	34	28	23	20	17	15	13	12	10	9	8
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
FC	311.3	77.8	34.6	19.5	12.5	8.6	6.4	4.9	3.8	3.1	2.6	2.2	1.8	1.6	1.4	1.2	1.1	1	0.9	0.8

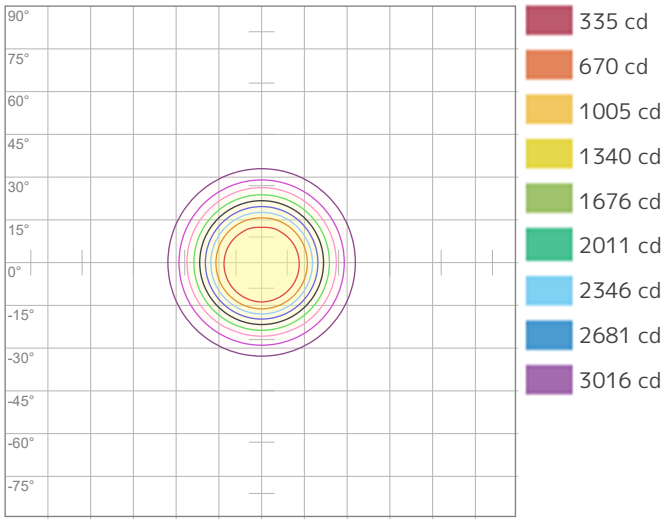
Measurement Date: 9/16/2024

Angular Distribution



Beam Angle - 50%
47.5°
Field Angle - 10%
72.8°
Cutoff Angle - 2.5%
83.8°

ISO Diagrams

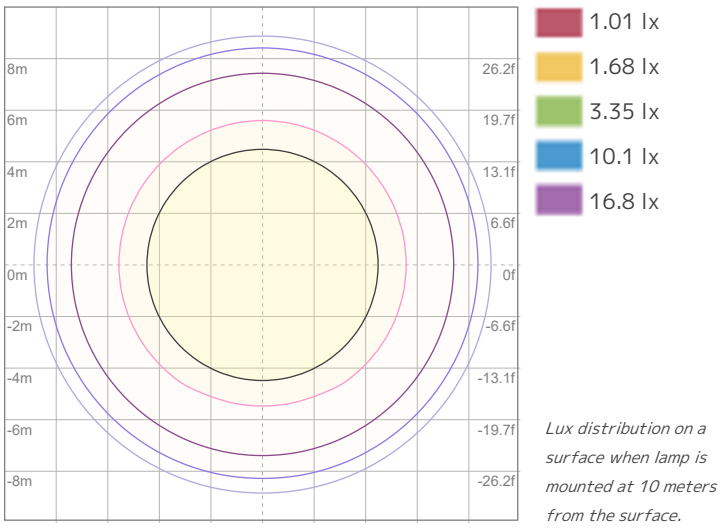


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3351 cd



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

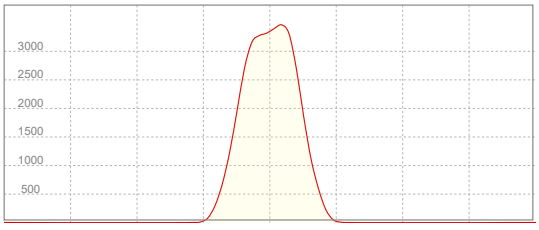
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 33.5 lx

Linear Distribution



Peak Candela
3463 cd

Calculate Center Beam Intensities

lux = 3463 / distance(m)^2

fc = 3463 / distance(ft)^2

Measurement Date: 9/16/2024

KL FRESNEL 4 FC (Zoom Out 8500K- Highest Fidelity)

Key Measurements

Output

Total Lumen Output: 2133 lm

Peak Intensity: 3396 cd

Beam

Beam Angle (50%): 47.5°

Field Angle (10%): 72.9°

Cutoff Angle (2.5%): 84.7°

Color

Color Temperature: 8167 K

CRI: 89.3

TLCI: 90

TM30 R_F: 86.4

TM30 R_g: 99.7

Power Details

Efficacy: 28 Lumen/Watt

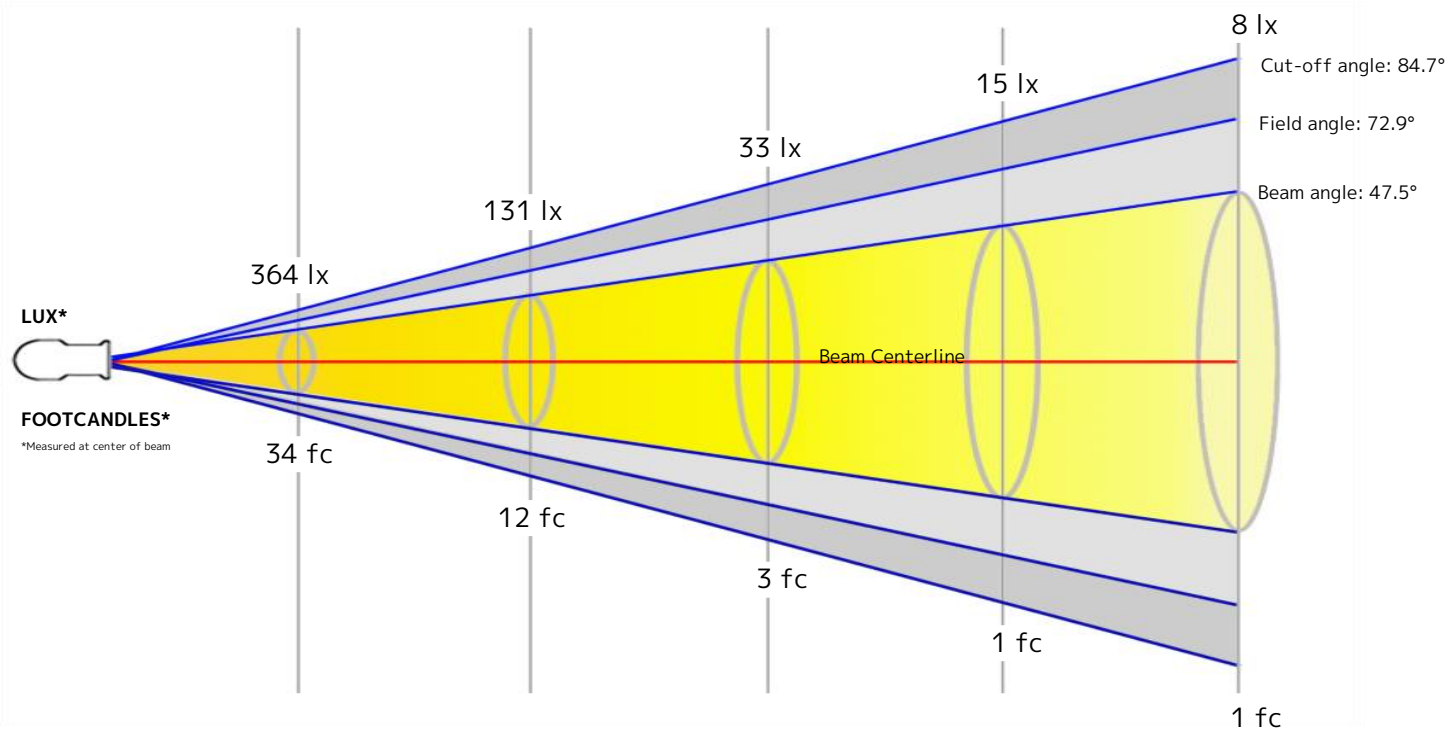
Power: 76.1 W

Supply Voltage: 119 V

Current: 0.648 A

Beam Details

Distance	3 m	5 m	10 m	15 m	20 m
Beam Width	2.6 m	4.4 m	8.8 m	13.2 m	17.6 m



Distance	9.8 ft	16.4 ft	32.8 ft	49.2 ft	65.6 ft
Beam Width	8.6 ft	14.4 ft	28.9 ft	43.3 ft	57.8 ft

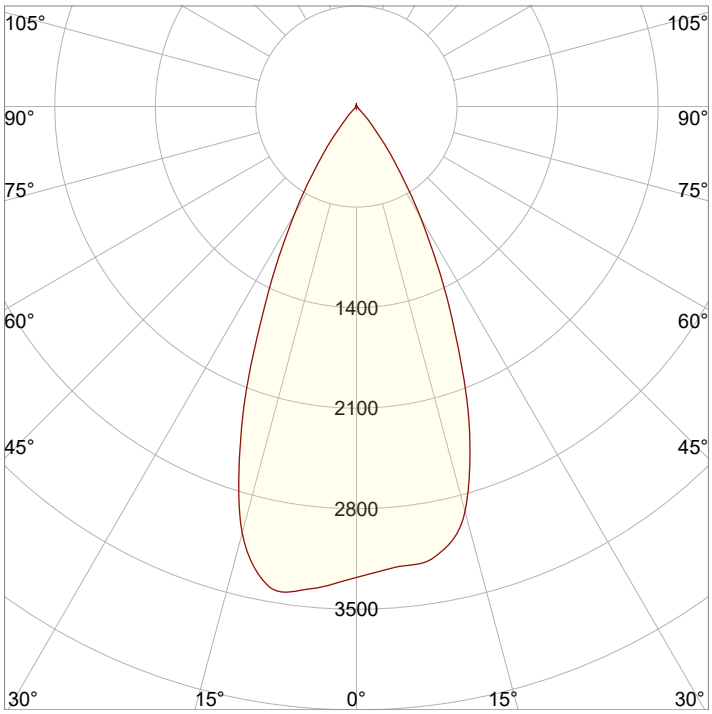
Beam Intensities from 1-20m

M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LX	3279	820	364	205	131	91	67	51	40	33	27	23	19	17	15	13	11	10	9	8
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
FC	304.6	76.2	33.8	19	12.2	8.5	6.2	4.8	3.8	3	2.5	2.1	1.8	1.6	1.4	1.2	1.1	0.9	0.8	0.8

Measurement Date: 9/16/2024

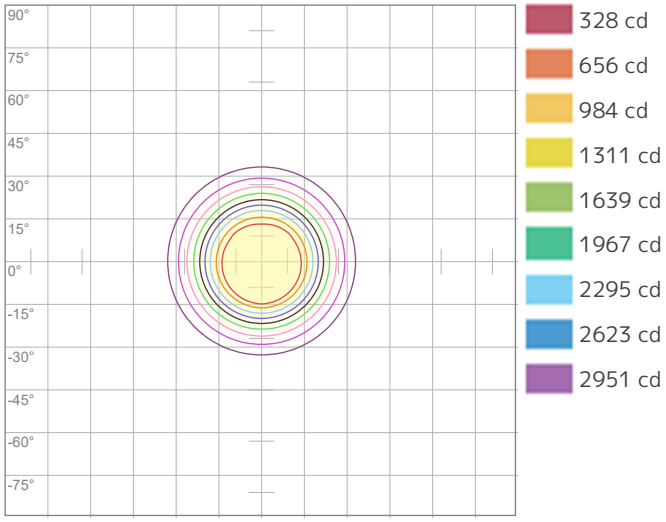
KL FRESNEL 4 FC (Zoom Out 8500K- Highest Fidelity)

Angular Distribution



Beam Angle - 50%
47.5°
Field Angle - 10%
72.9°
Cutoff Angle - 2.5%
84.7°

ISO Diagrams

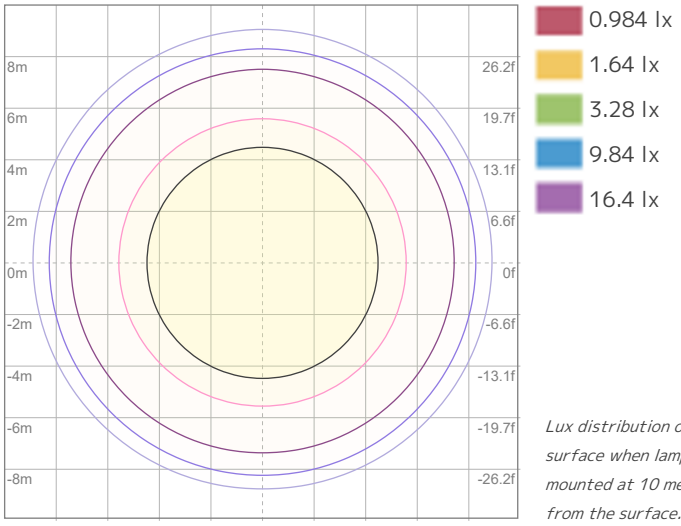


ISO Candela Diagram

Conditions:

Number of c-planes: 2

Candela at center: 3279 cd



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

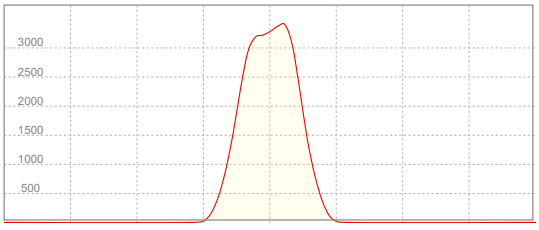
ISO LUX Diagram

Conditions:

Number of c-planes: 2

LUX at center: 32.8 lx

Linear Distribution



Peak Candela

3396 cd

Calculate Center Beam Intensities

lux = 3396 / distance(m)^2

fc = 3396 / distance(ft)^2

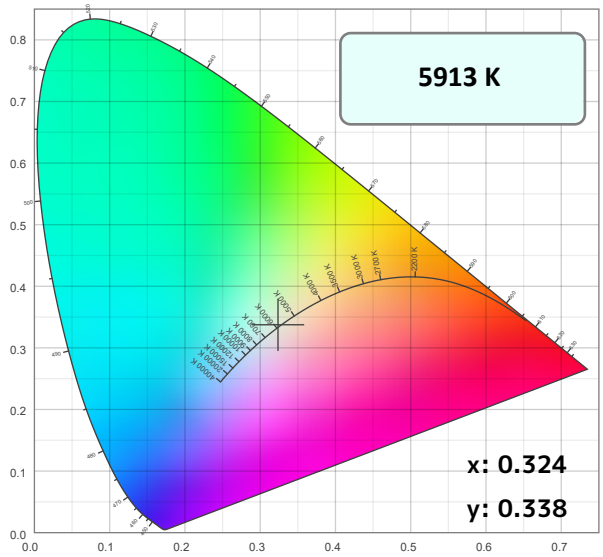
Measurement Date: 9/16/2024

Color Temperature: 5913K

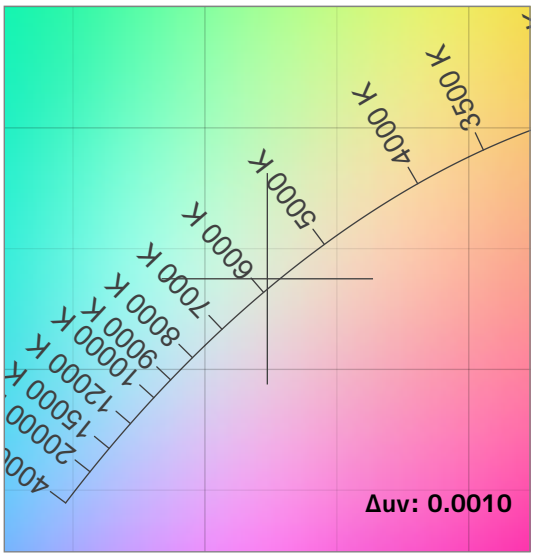
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
92.0	87.8	89.4	102.7	92	90.7	0.324	0.338	0.0010	30	58

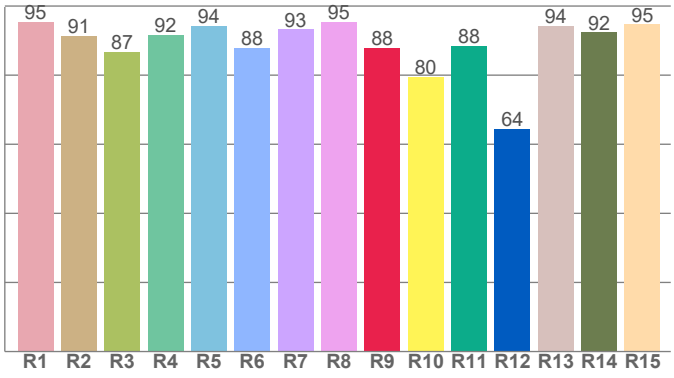
CIE 1931



CIE 1931 ZOOMED

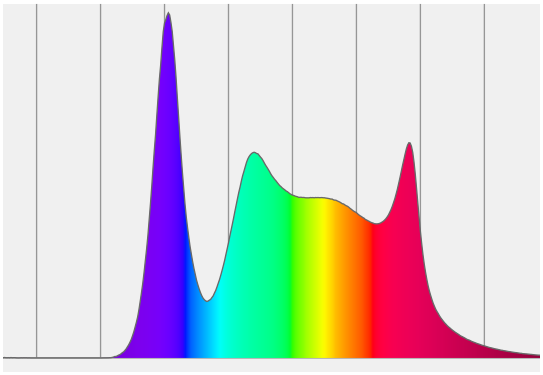


CRI: 92.0 (R1-R8)



Spectral Power Distribution (SPD)

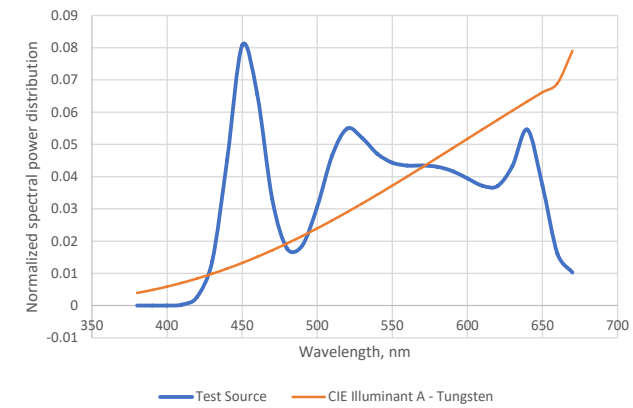
Dominant Wavelength 580 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 30

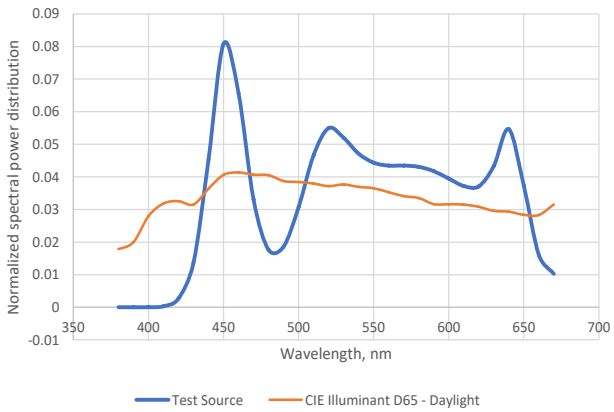
Spectral variance



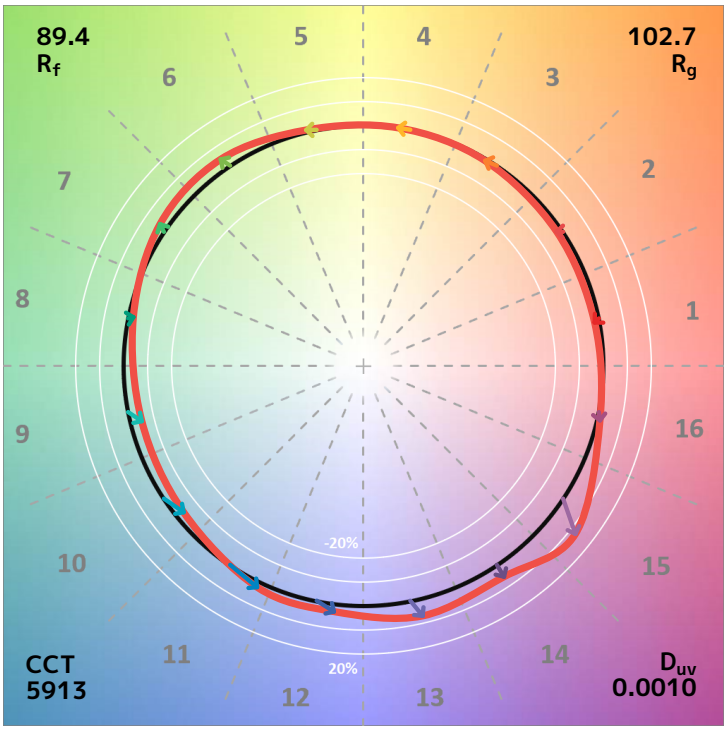
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 58

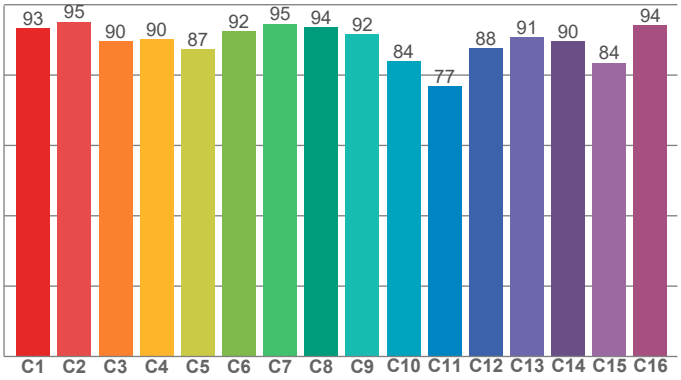
Spectral variance



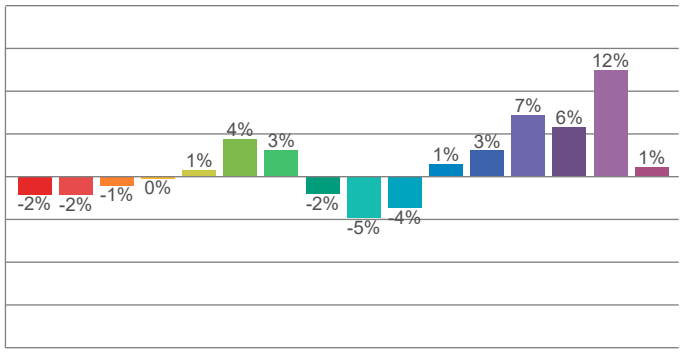
Measurement Date: 9/11/2024



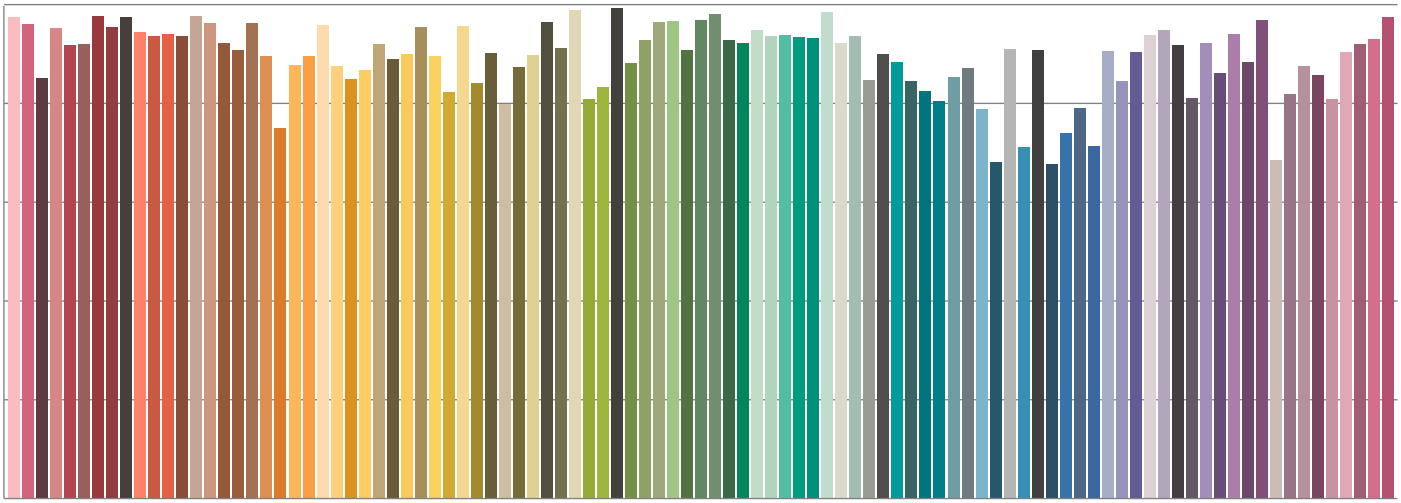
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/11/2024

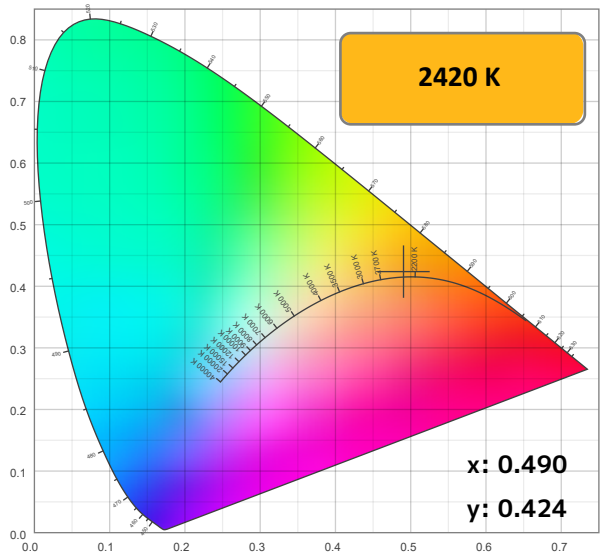
Prepared For ELATION PROFESSIONAL

Color Temperature: 2420K

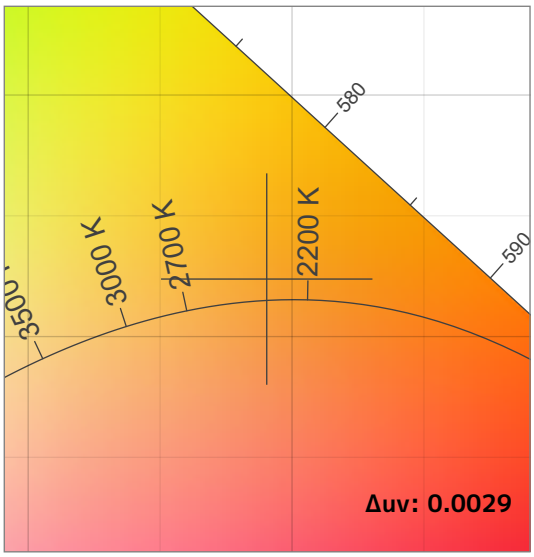
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
93.0	76.9	92.7	99.1	86	88.2	0.490	0.424	0.0029	68	13

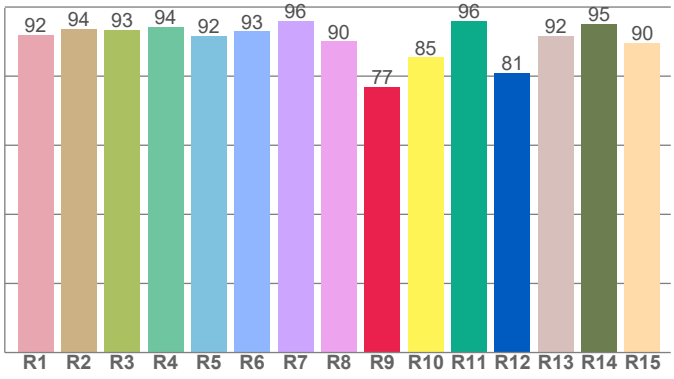
CIE 1931



CIE 1931 ZOOMED

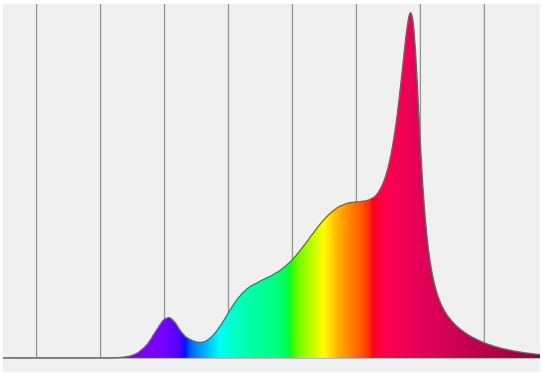


CRI: 93.0 (R1-R8)



Spectral Power Distribution (SPD)

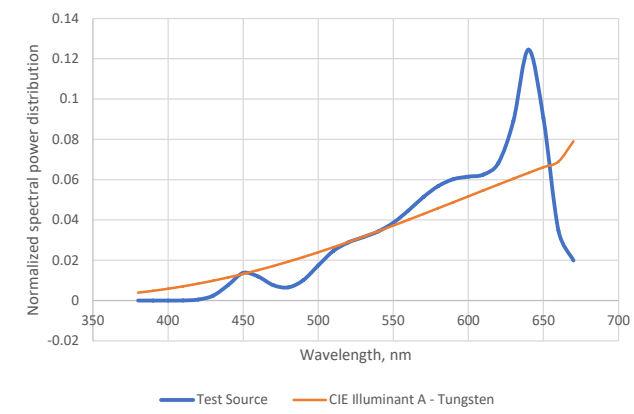
Dominant Wavelength 585 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 68

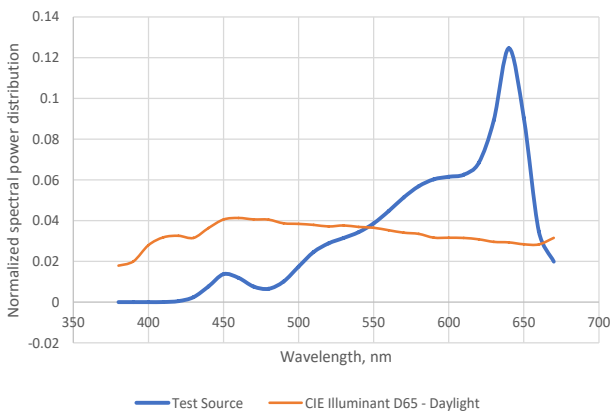
Spectral variance



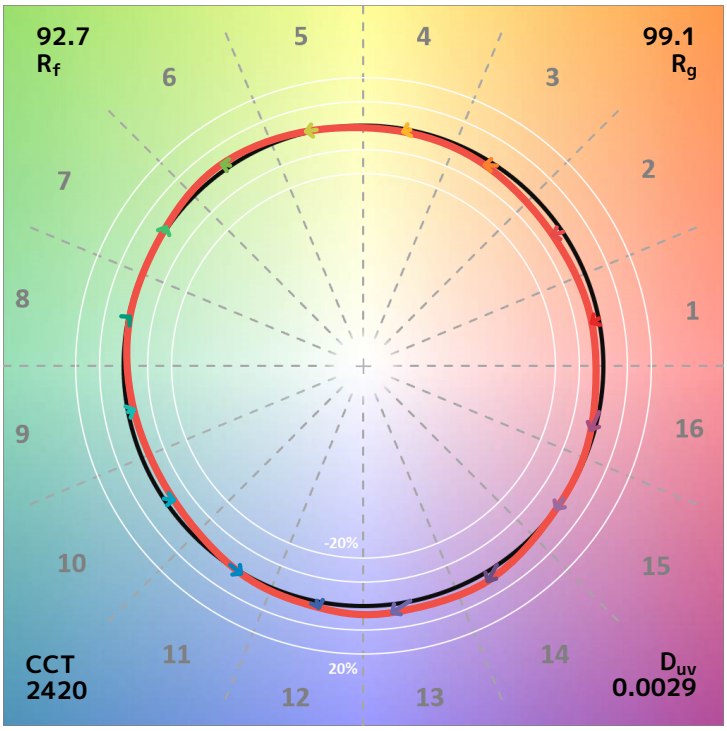
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 13

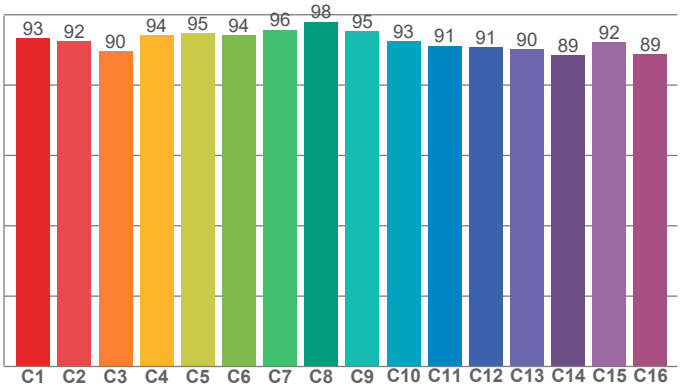
Spectral variance



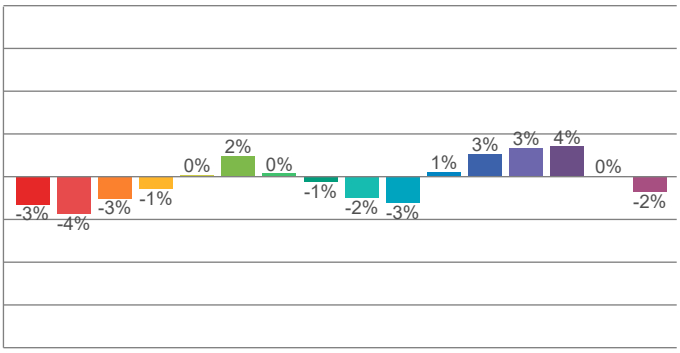
Measurement Date: 9/12/2024



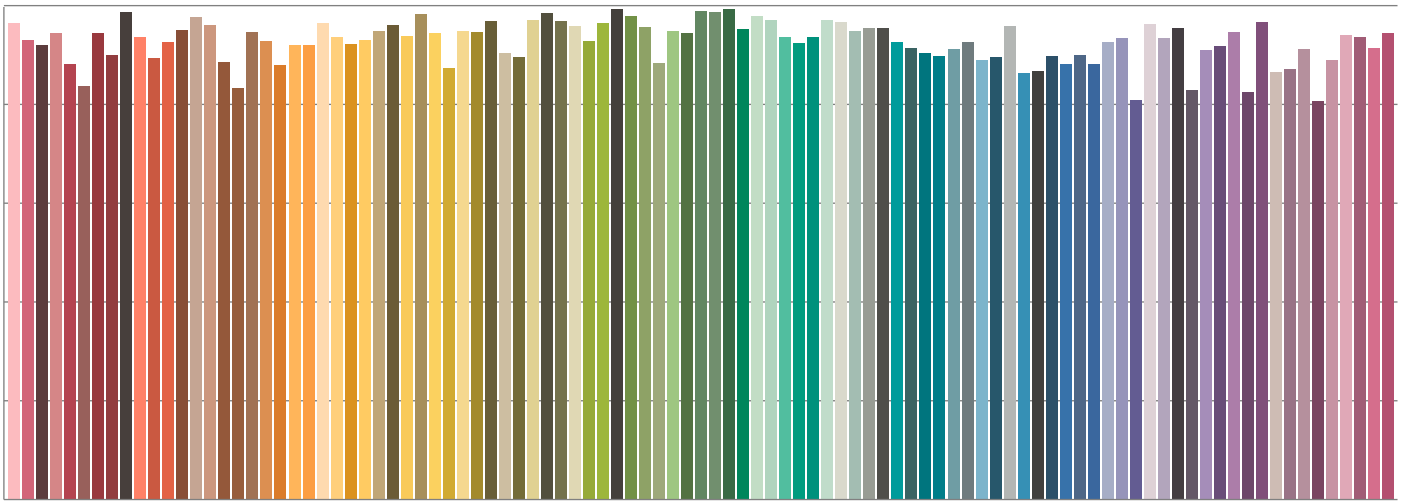
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/12/2024

KL FRESNEL 4 FC (2400K-Highest Fidelity)

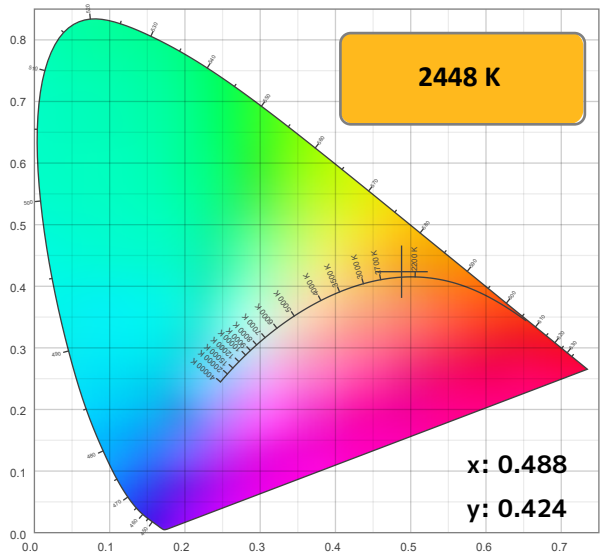
Prepared For ELATION PROFESSIONAL

Color Temperature: 2448K

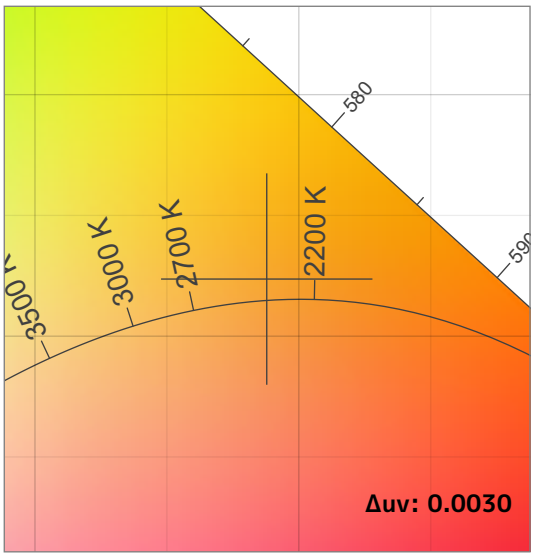
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
94.2	80.3	93.4	99.6	87	89.0	0.488	0.424	0.0030	69	14

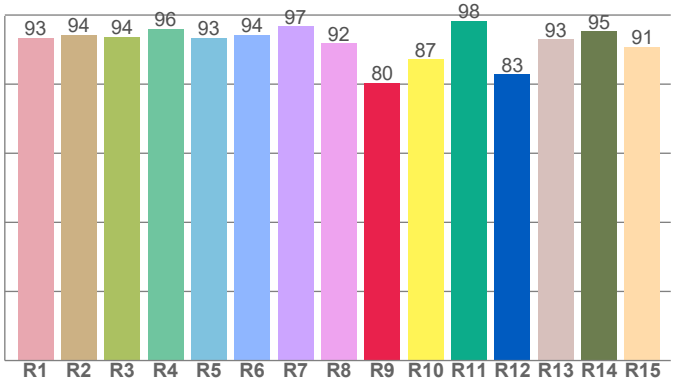
CIE 1931



CIE 1931 ZOOMED

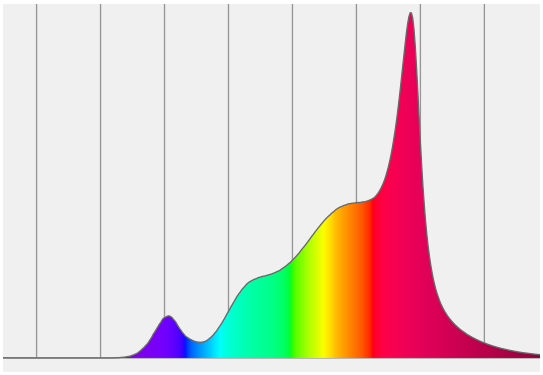


CRI: 94.2 (R1-R8)



Spectral Power Distribution (SPD)

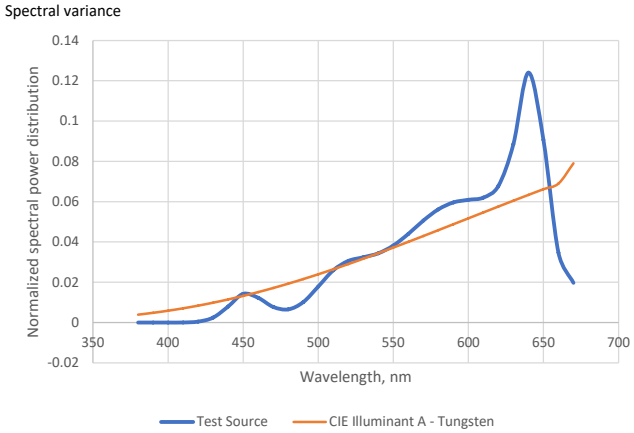
Dominant Wavelength 585 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 69

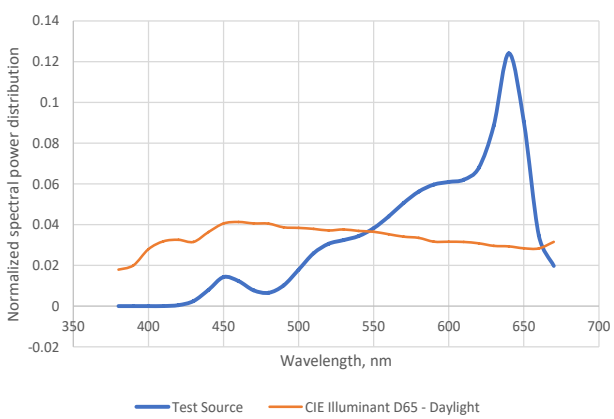
Spectral variance



SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 14

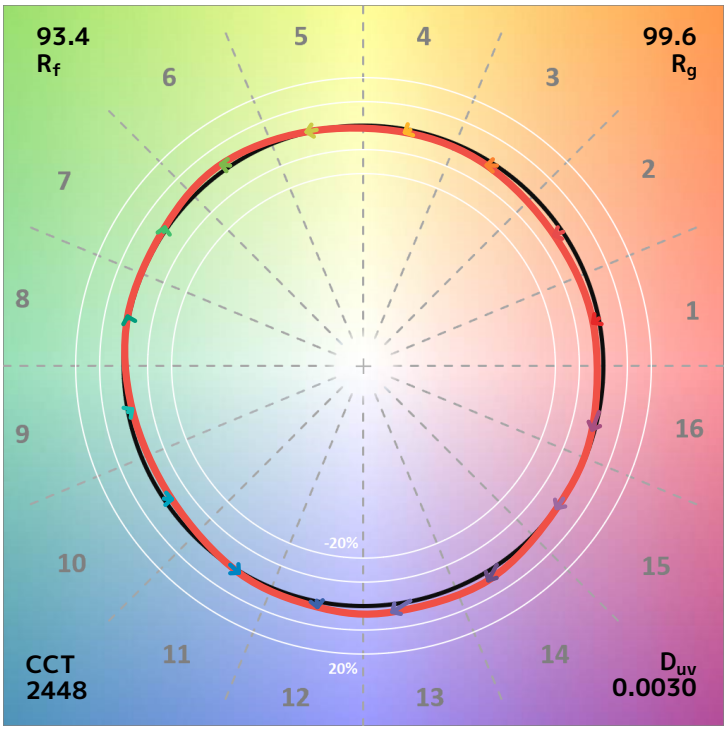
Spectral variance



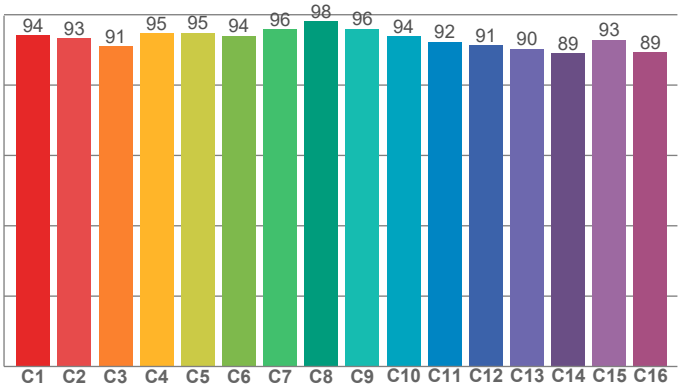
Measurement Date: 9/16/2024

KL FRESNEL 4 FC (2400K-Highest Fidelity)

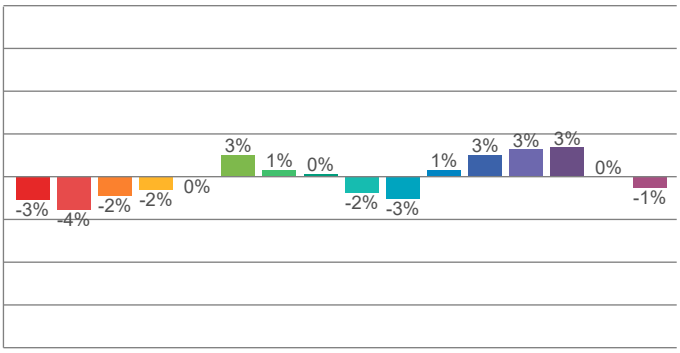
Prepared For ELATION PROFESSIONAL



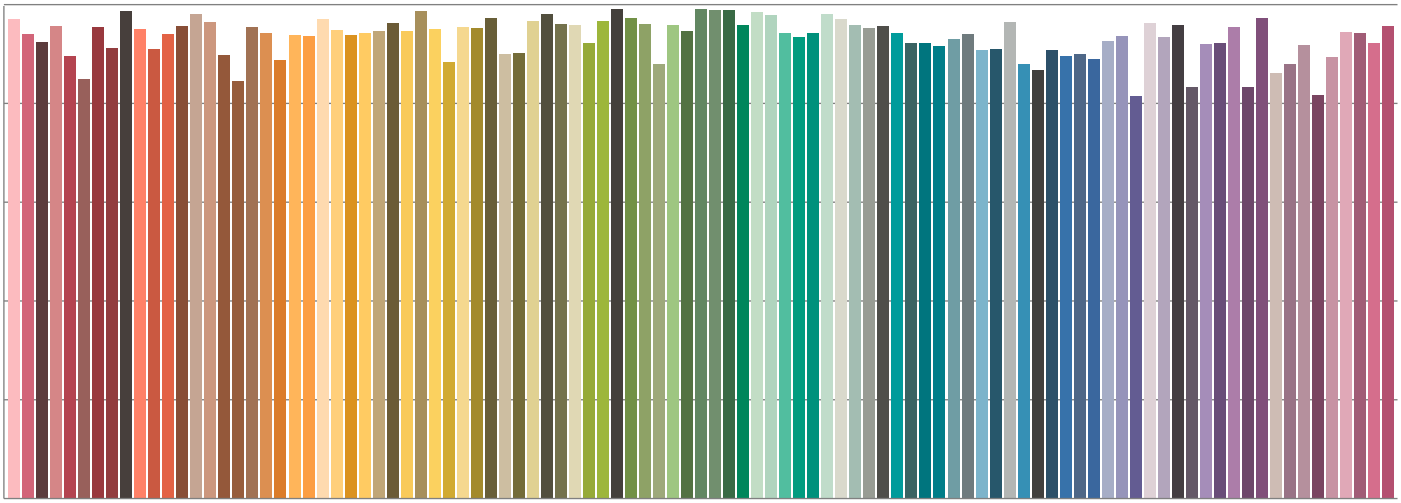
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



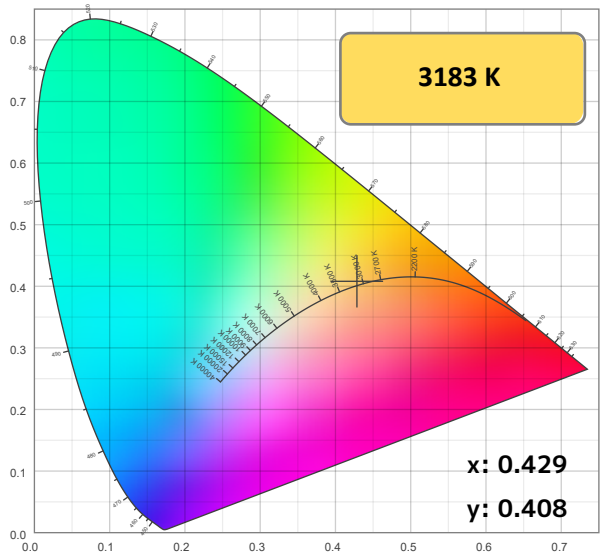
Measurement Date: 9/16/2024

Color Temperature: 3183K

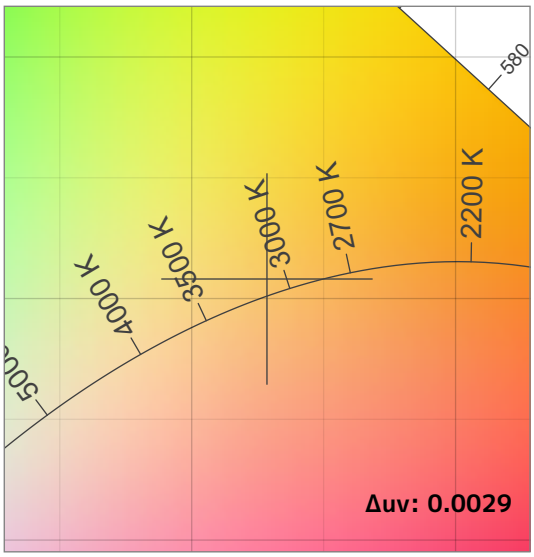
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.5	75.8	90.8	100.9	89	90.6	0.429	0.408	0.0029	73	36

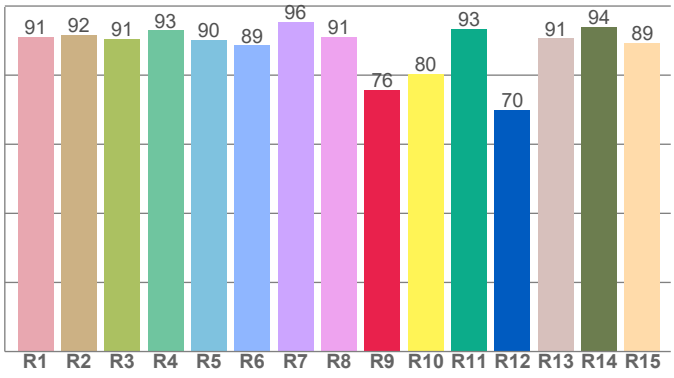
CIE 1931



CIE 1931 ZOOMED

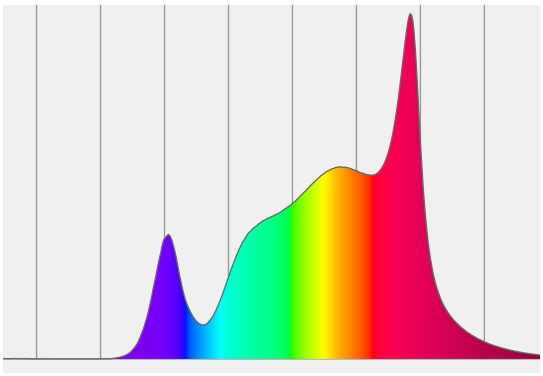


CRI: 91.5 (R1-R8)



Spectral Power Distribution (SPD)

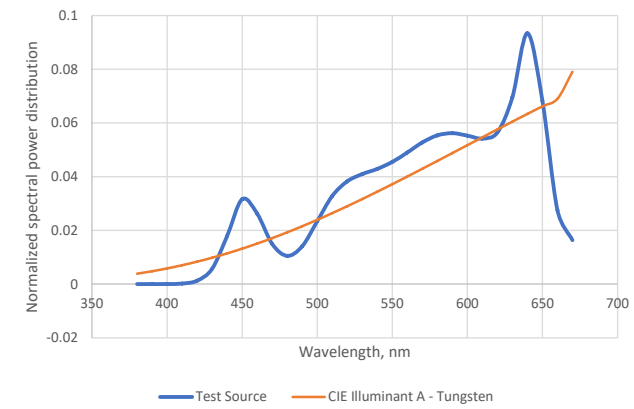
Dominant Wavelength 582 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 73

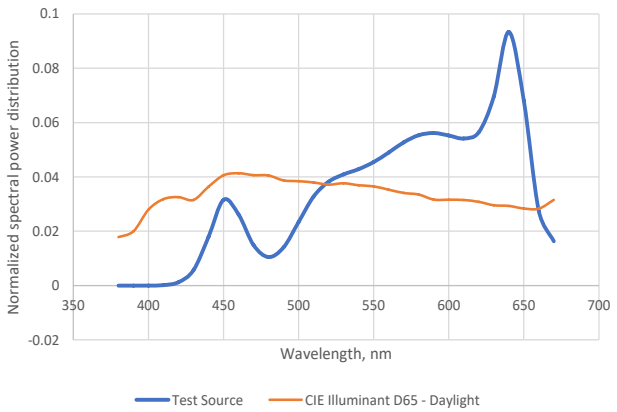
Spectral variance



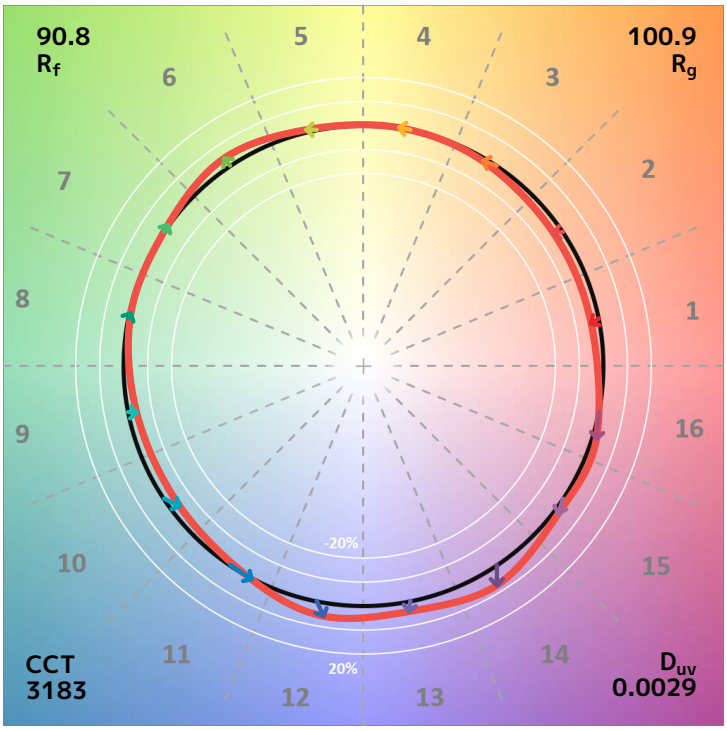
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 36

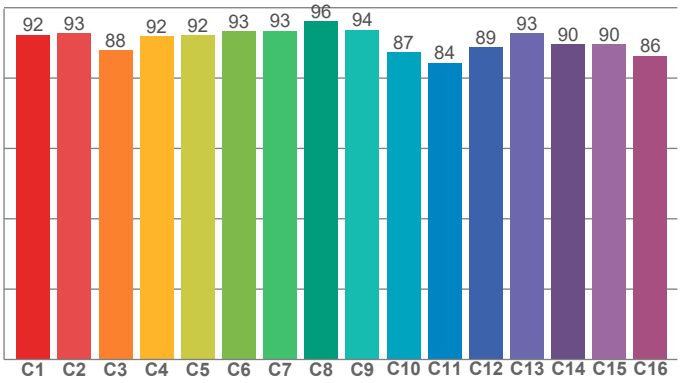
Spectral variance



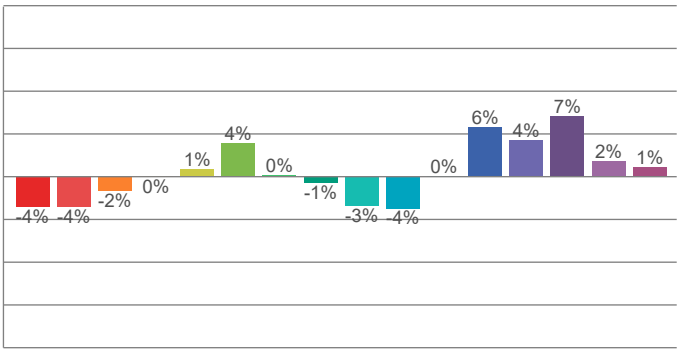
Measurement Date: 9/12/2024



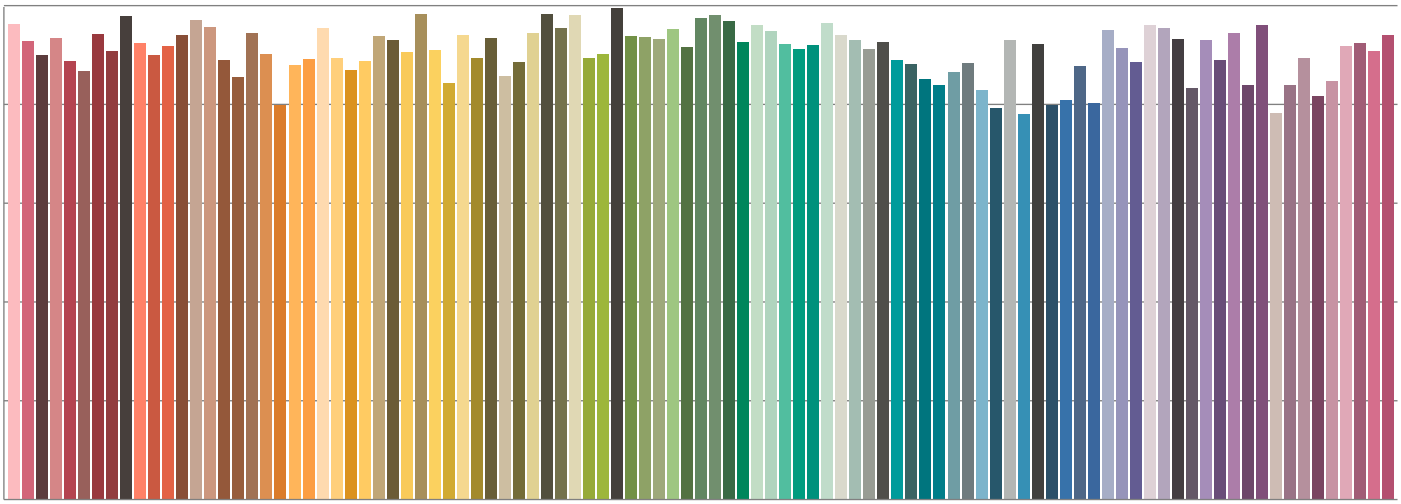
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/12/2024

KL FRESNEL 4 FC (3200K-Highest Fidelity)

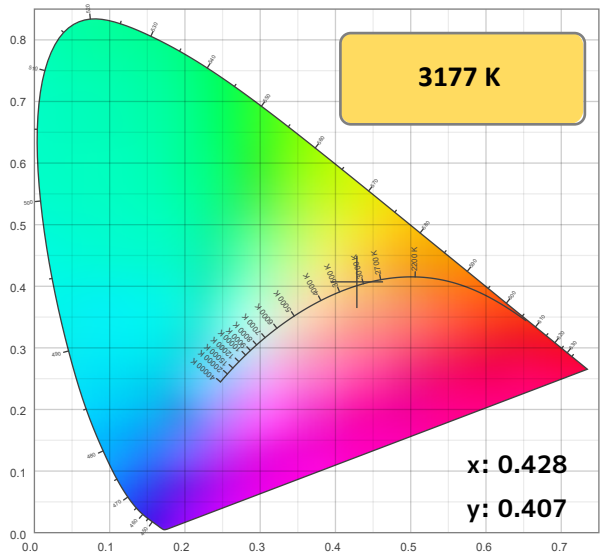
Prepared For ELATION PROFESSIONAL

Color Temperature: 3177K

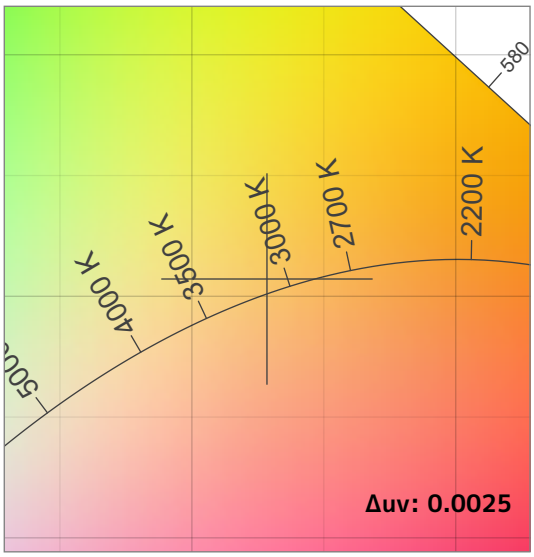
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
92.4	79.4	91.2	101.4	89	91.2	0.428	0.407	0.0025	73	36

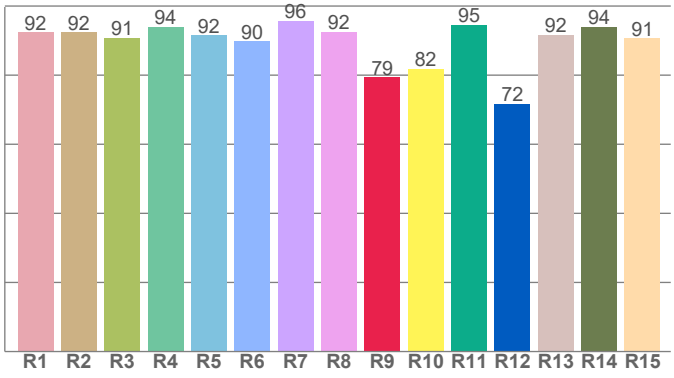
CIE 1931



CIE 1931 ZOOMED

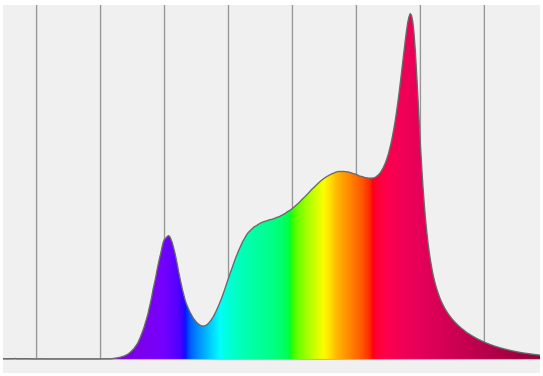


CRI: 92.4 (R1-R8)



Spectral Power Distribution (SPD)

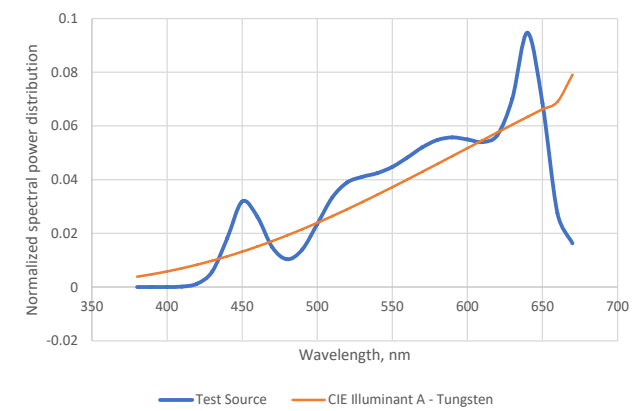
Dominant Wavelength 582 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 73

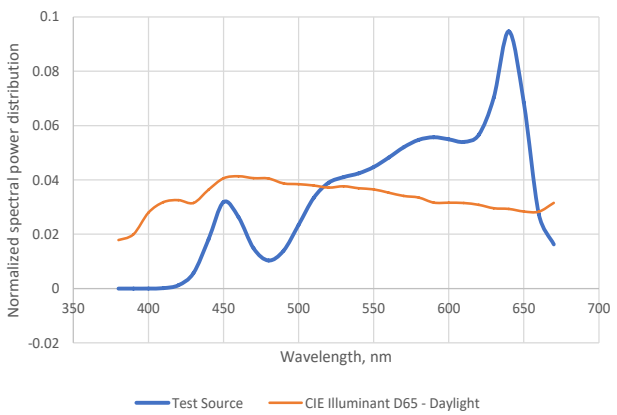
Spectral variance



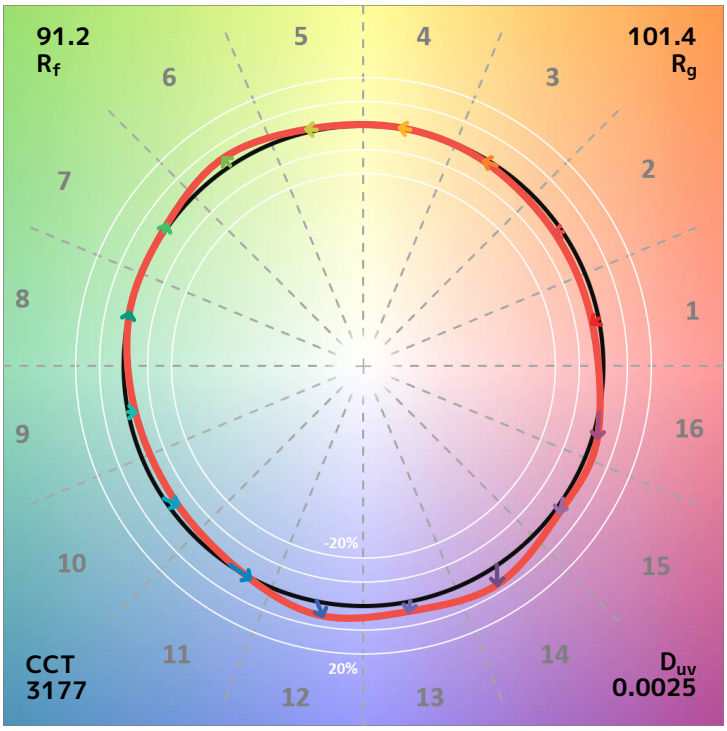
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 36

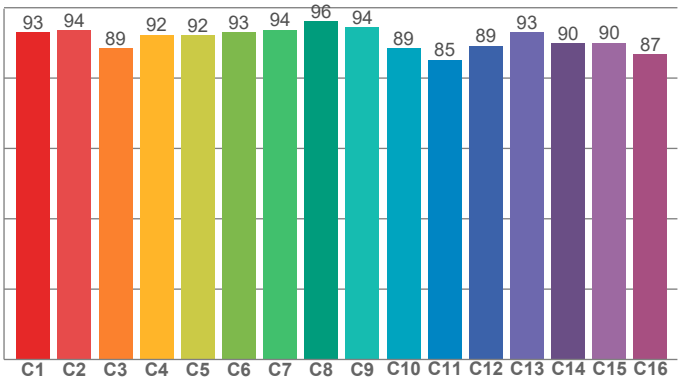
Spectral variance



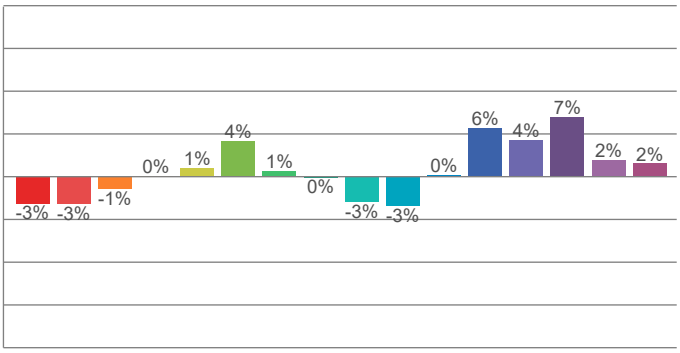
Measurement Date: 9/13/2024



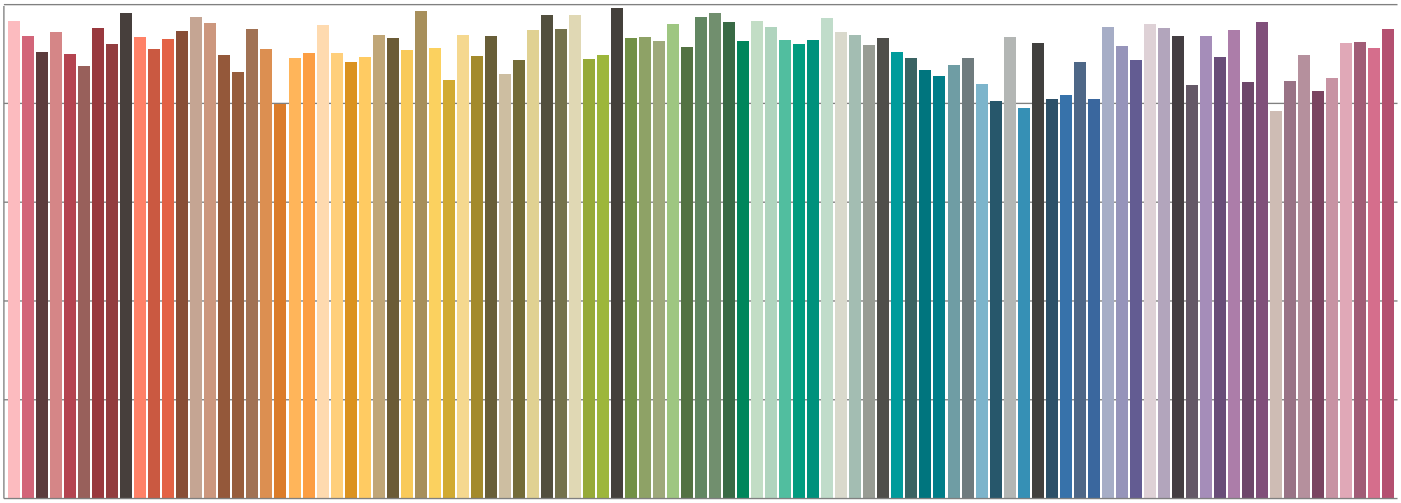
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



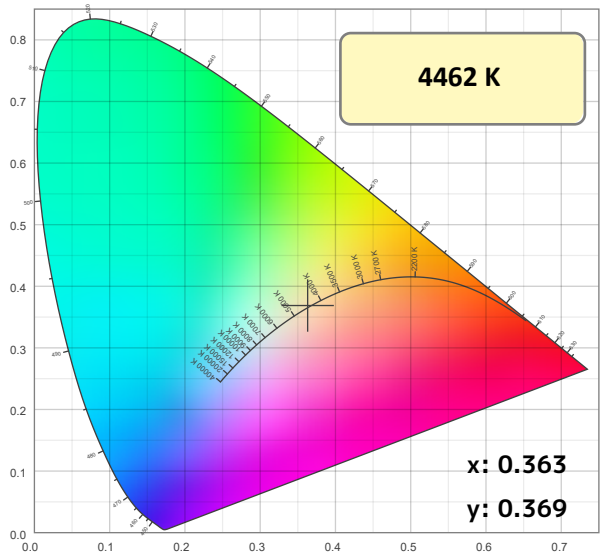
Measurement Date: 9/13/2024

Color Temperature: 4462K

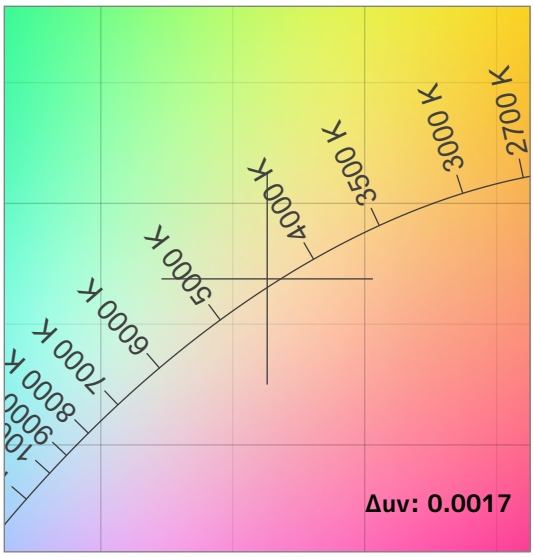
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
89.3	69.4	87.7	100.9	87	88.6	0.363	0.369	0.0017	51	55

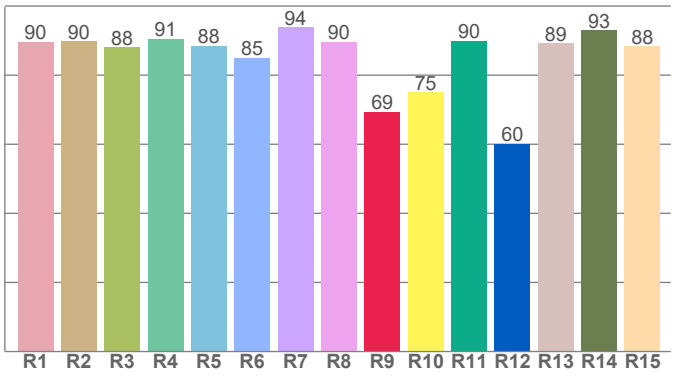
CIE 1931



CIE 1931 ZOOMED

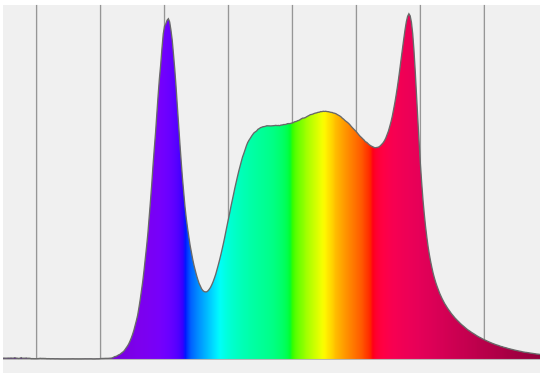


CRI: 89.3 (R1-R8)



Spectral Power Distribution (SPD)

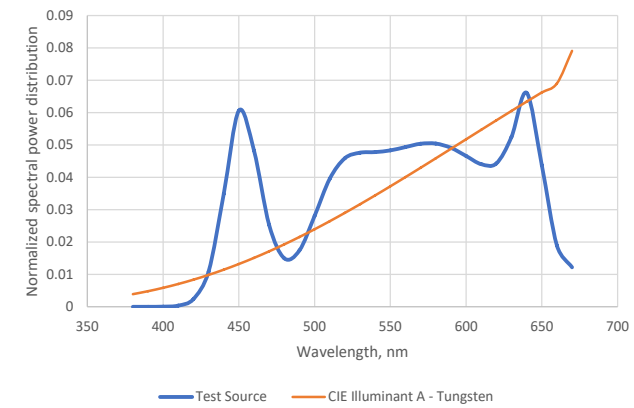
Dominant Wavelength 580 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 51

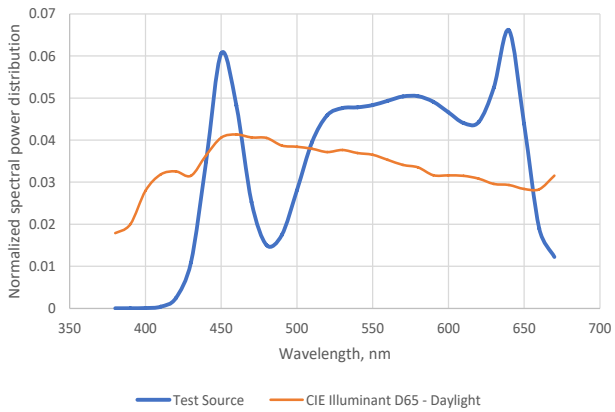
Spectral variance



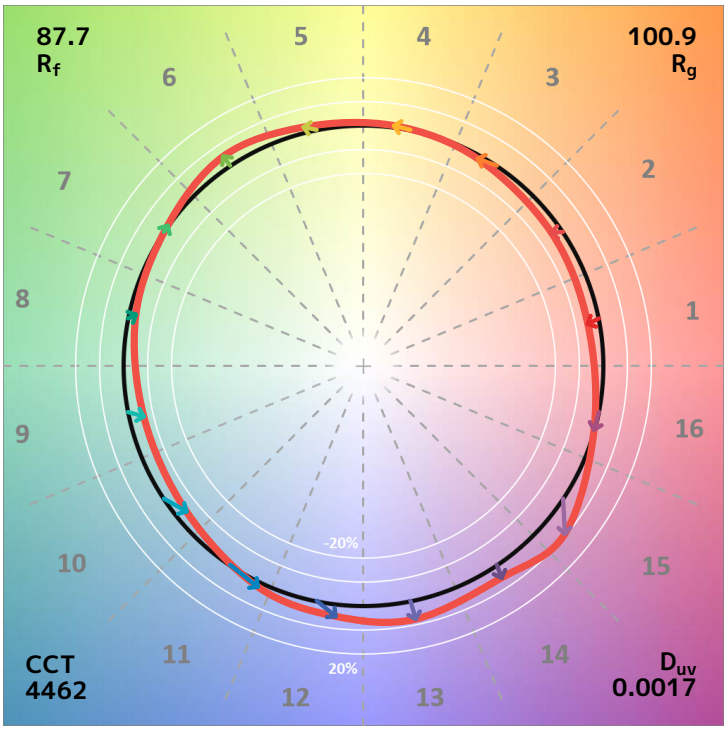
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 55

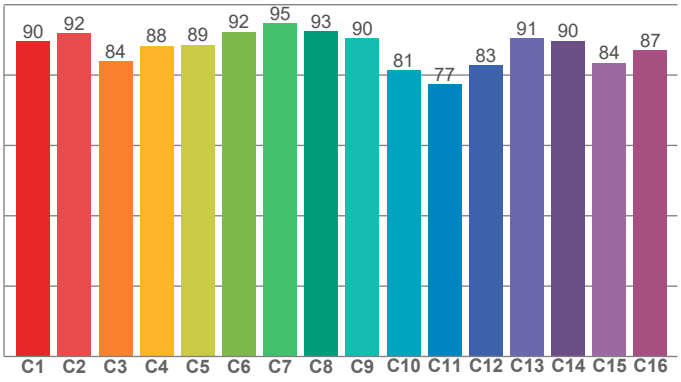
Spectral variance



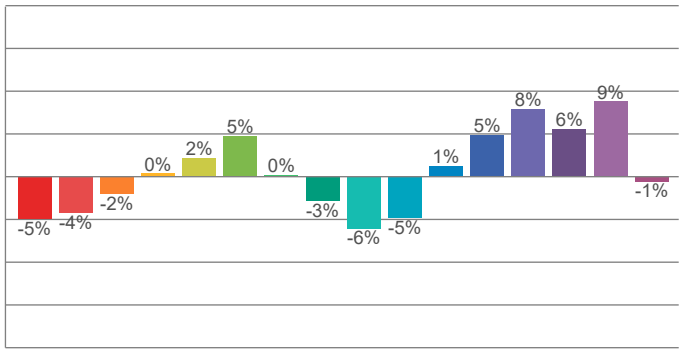
Measurement Date: 9/13/2024



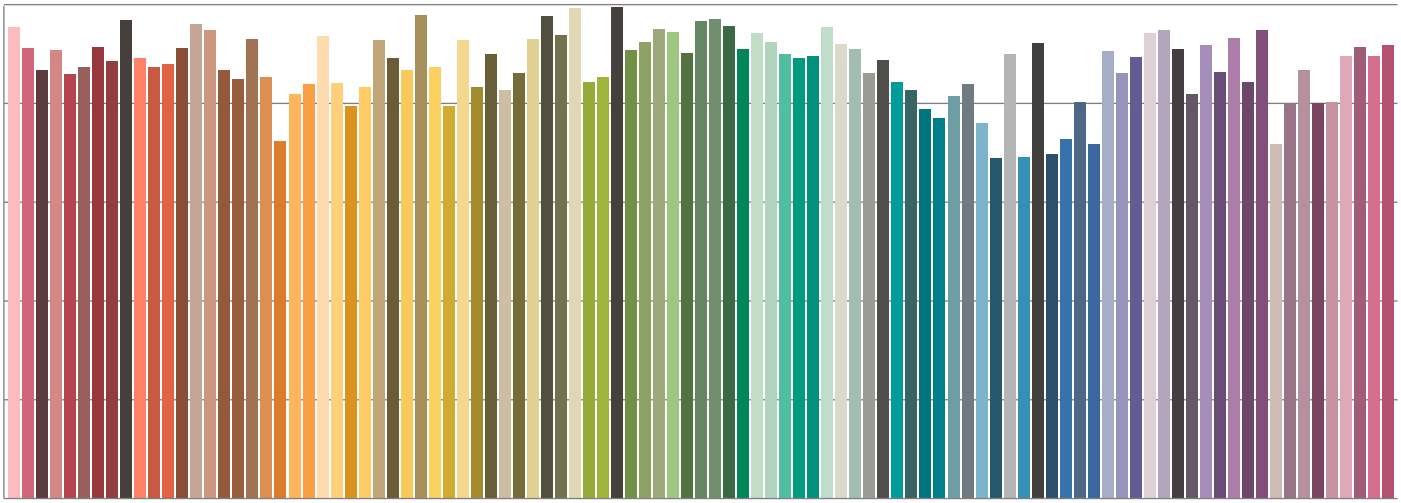
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (4500K- Highest Fidelity)

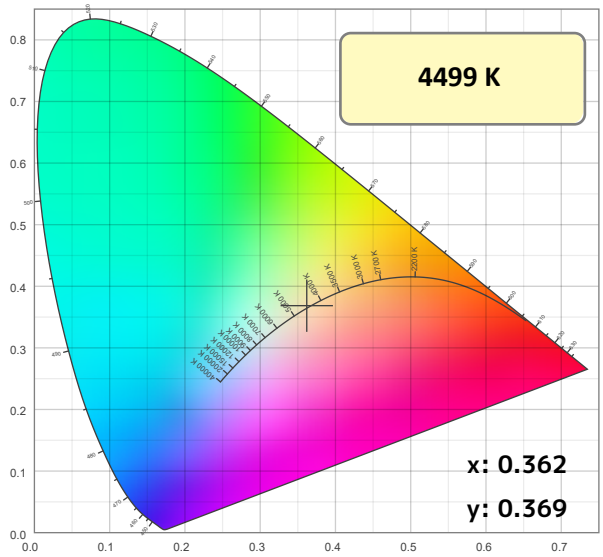
Prepared For ELATION PROFESSIONAL

Color Temperature: 4499K

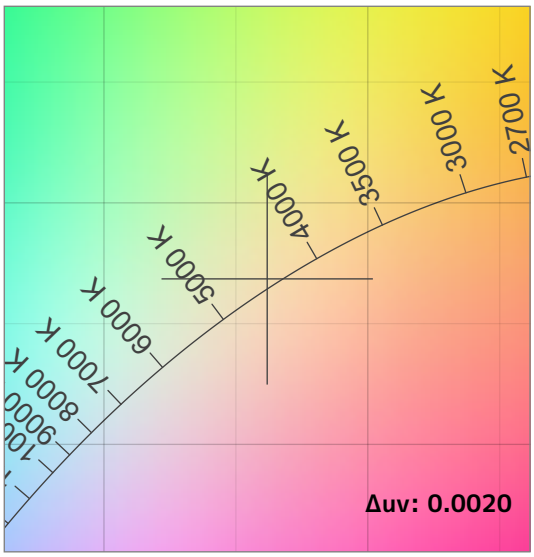
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.5	80.1	89.4	101.9	90	91.0	0.362	0.369	0.0020	51	55

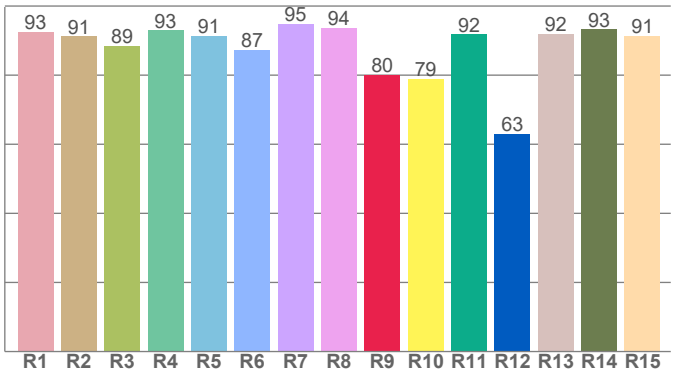
CIE 1931



CIE 1931 ZOOMED

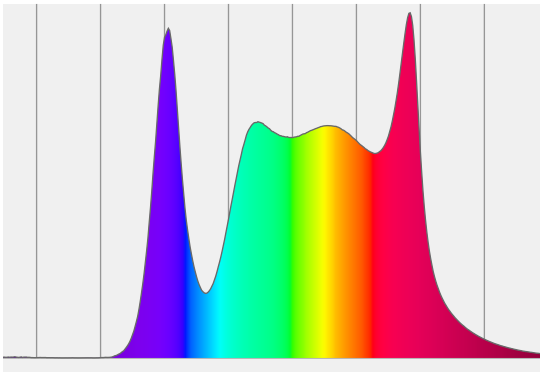


CRI: 91.5 (R1-R8)



Spectral Power Distribution (SPD)

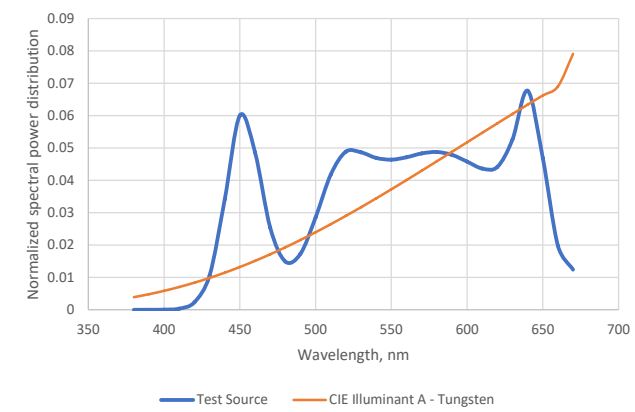
Dominant Wavelength 580 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 51

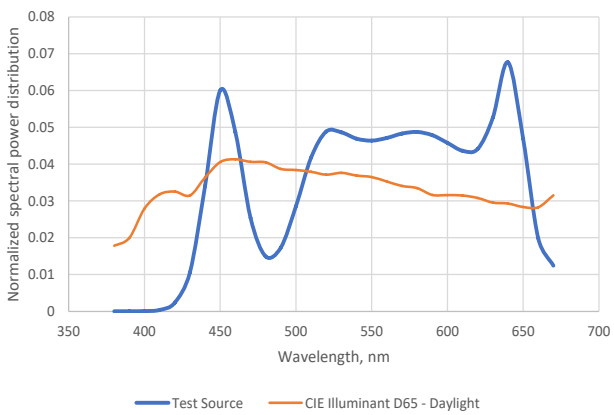
Spectral variance



SSI Spectral Variance Graph- Daylight

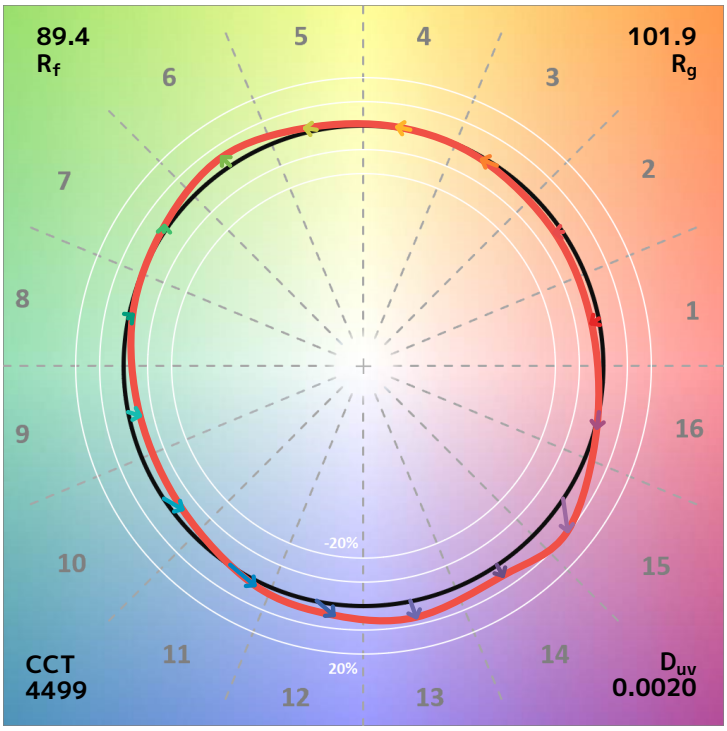
SSI [CIE D65] 55

Spectral variance

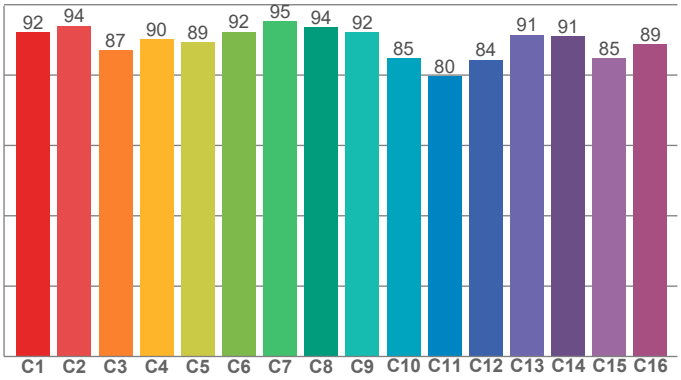


Measurement Date: 9/13/2024

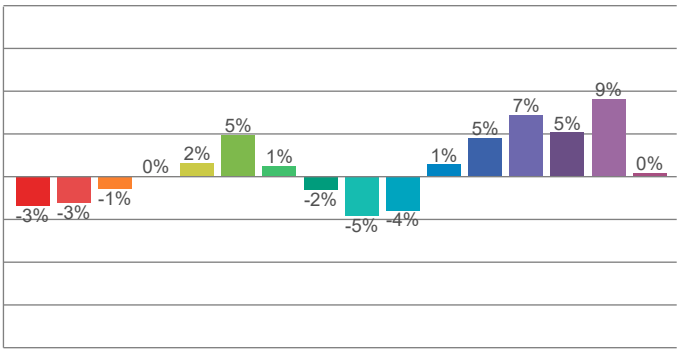
KL FRESNEL 4 FC (4500K-Highest Fidelity)



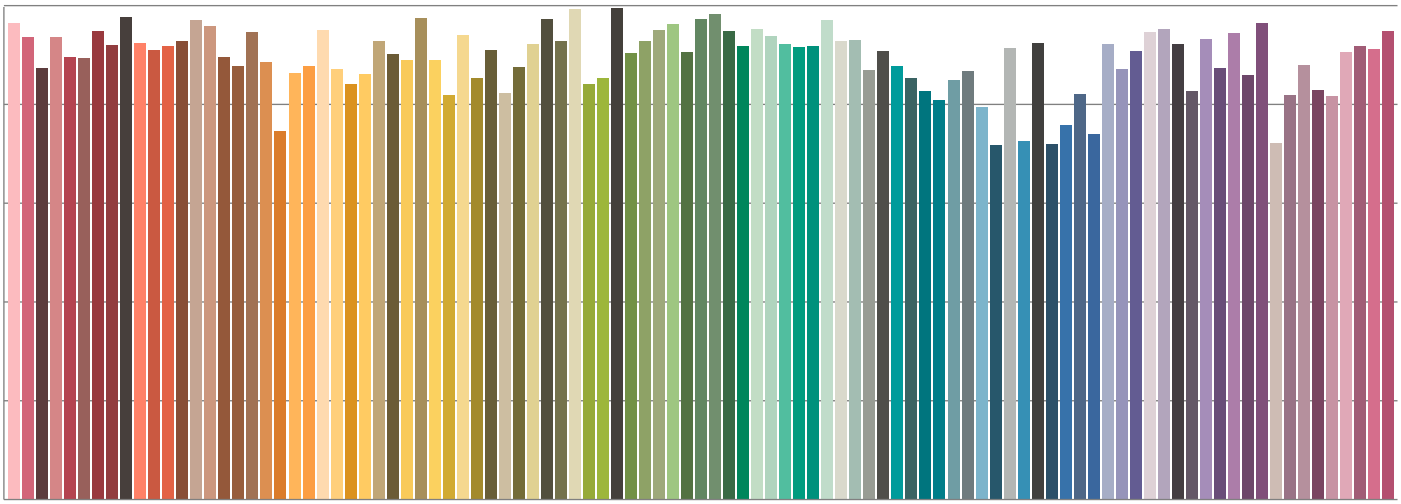
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



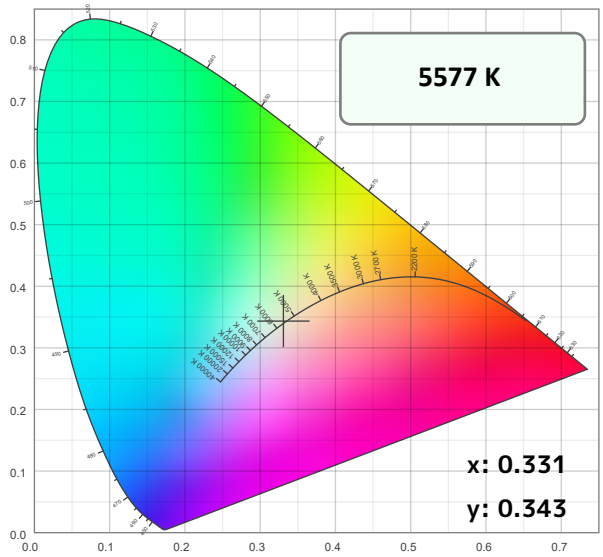
Measurement Date: 9/13/2024

Color Temperature: 5577K

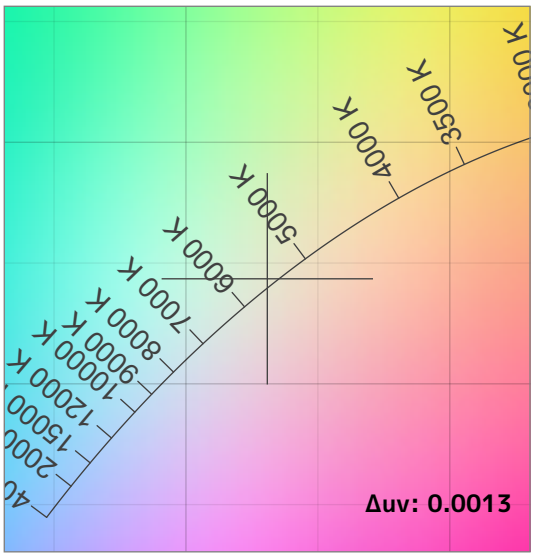
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.7	85.0	89.3	102.6	92	90.3	0.331	0.343	0.0013	34	58

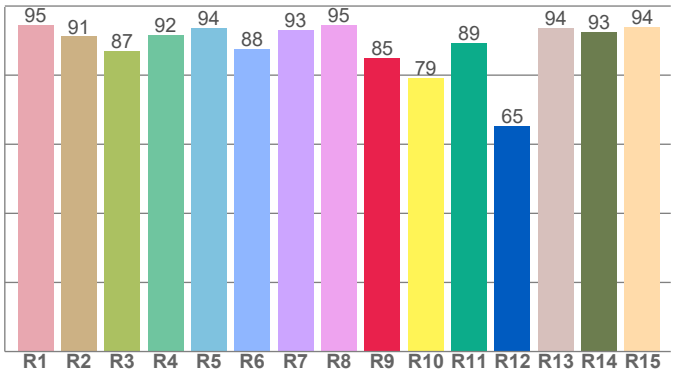
CIE 1931



CIE 1931 ZOOMED

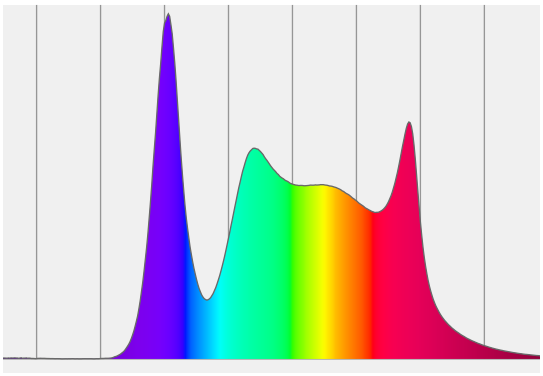


CRI: 91.7 (R1-R8)



Spectral Power Distribution (SPD)

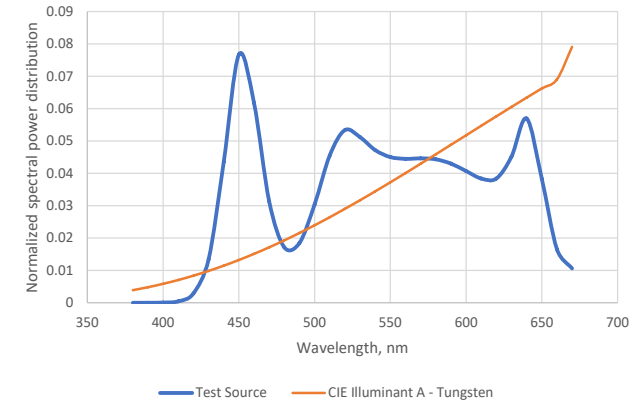
Dominant Wavelength 580 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 34

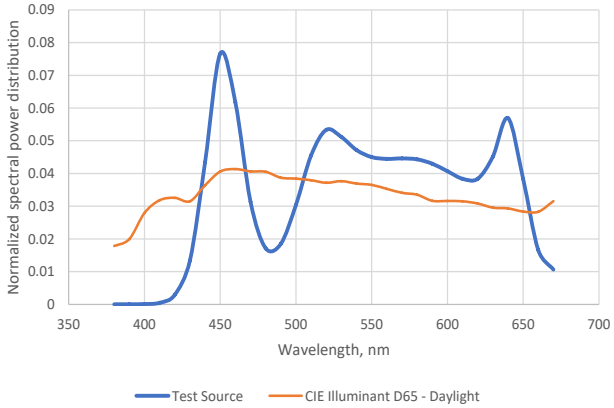
Spectral variance



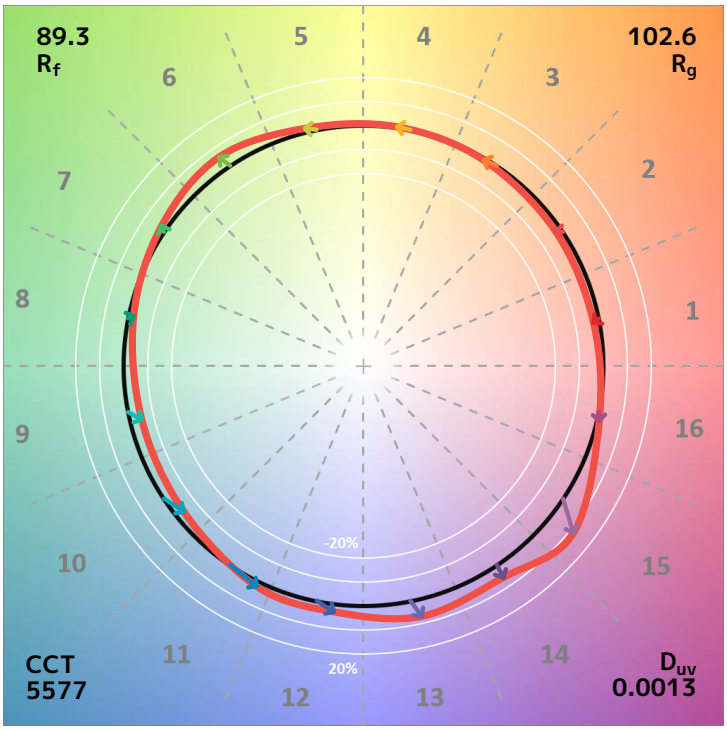
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 58

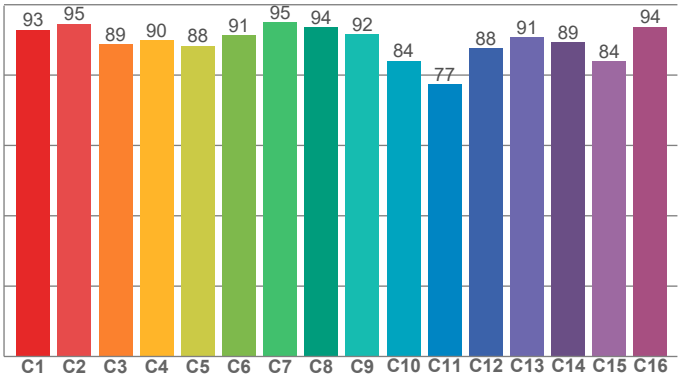
Spectral variance



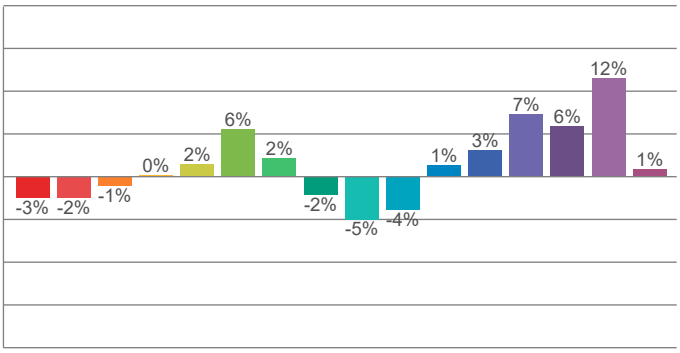
Measurement Date: 9/13/2024



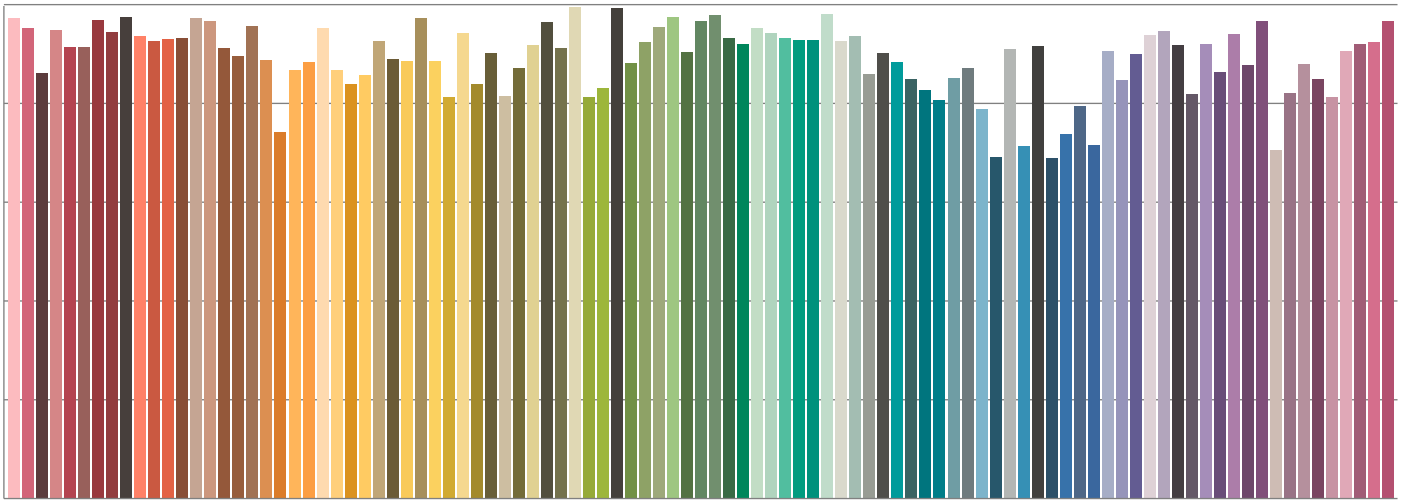
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (5600K- Highest Fidelity)

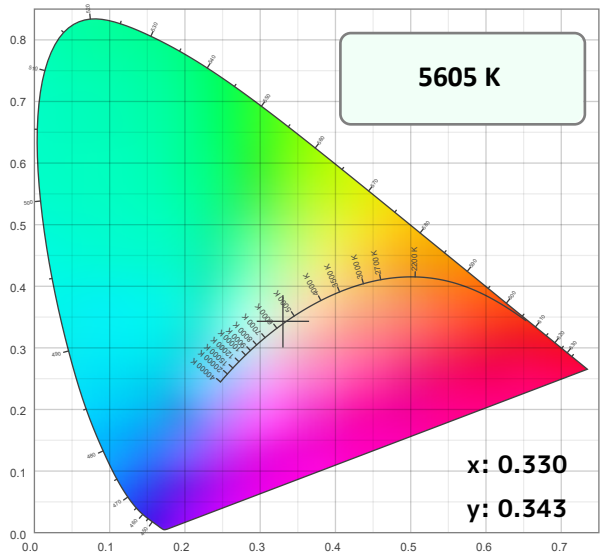
Prepared For ELATION PROFESSIONAL

Color Temperature: 5605K

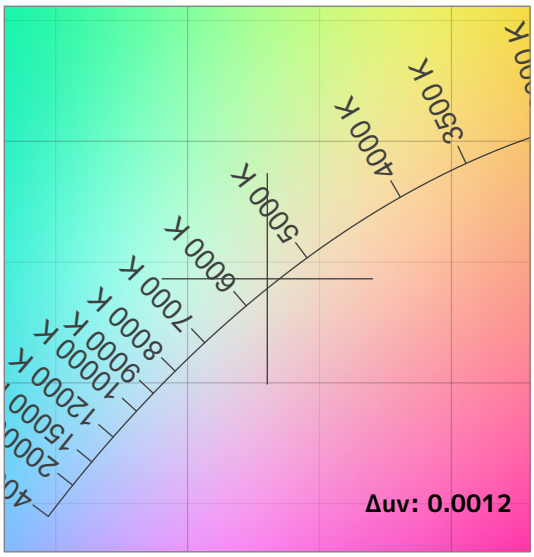
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.7	85.1	89.3	102.5	92	90.3	0.330	0.343	0.0012	34	58

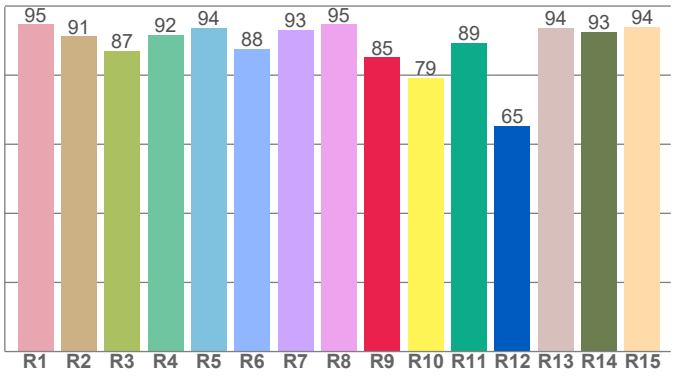
CIE 1931



CIE 1931 ZOOMED

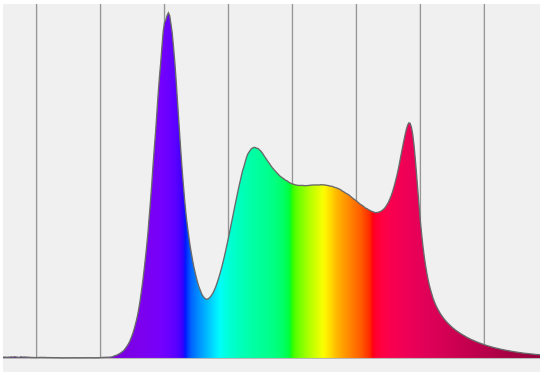


CRI: 91.7 (R1-R8)



Spectral Power Distribution (SPD)

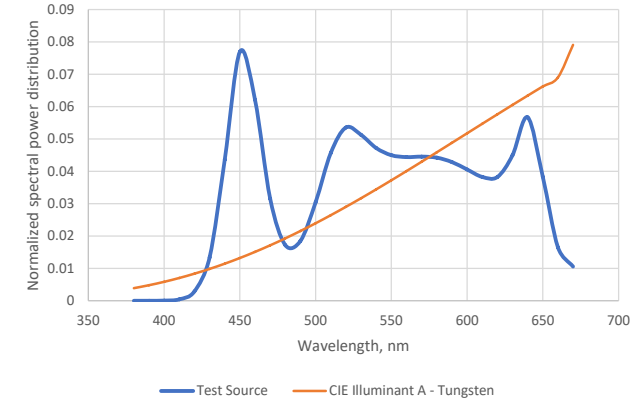
Dominant Wavelength 580 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 34

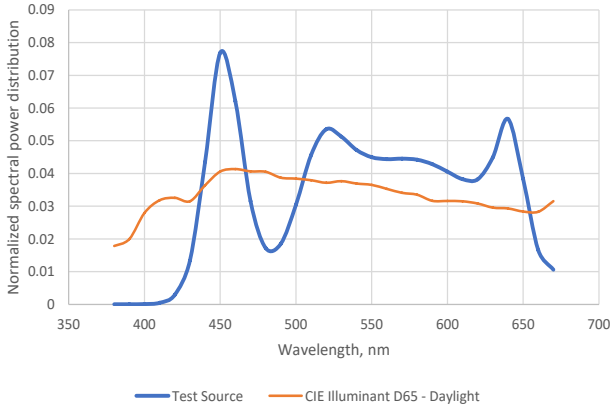
Spectral variance



SSI Spectral Variance Graph- Daylight

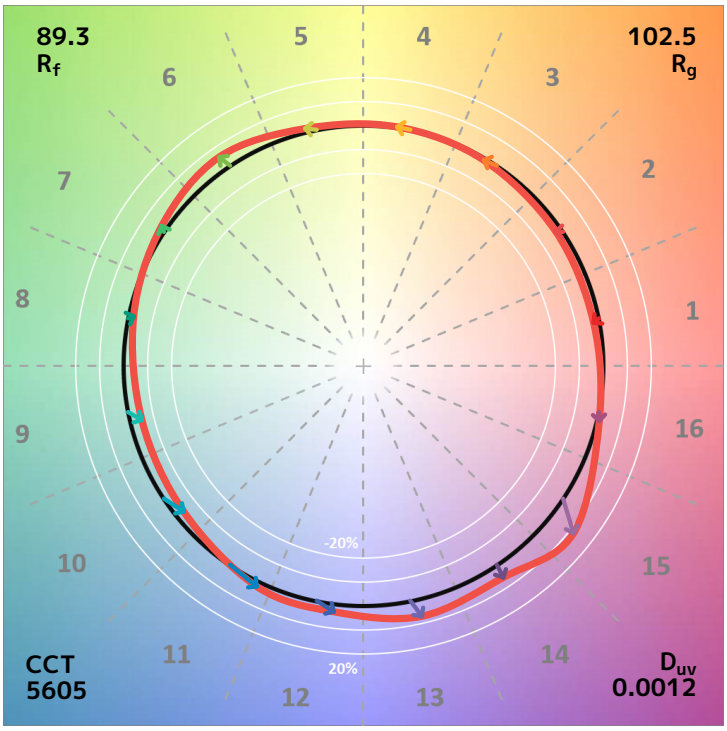
SSI [CIE D65] 58

Spectral variance

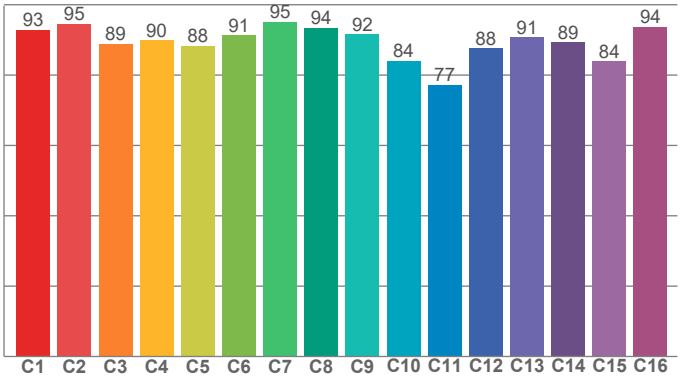


Measurement Date: 9/13/2024

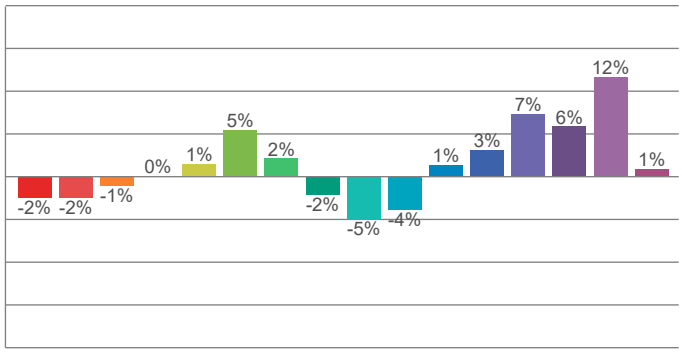
KL FRESNEL 4 FC (5600K-Highest Fidelity)



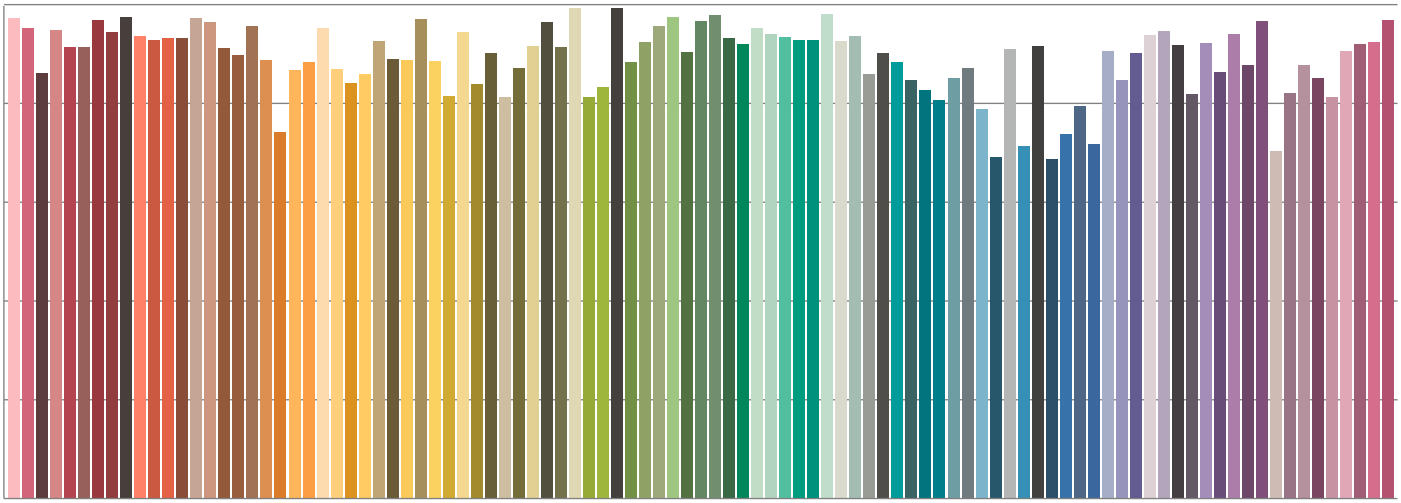
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



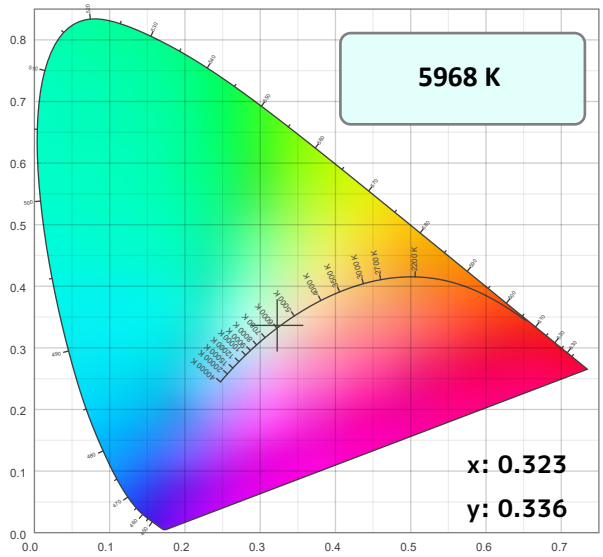
Measurement Date: 9/13/2024

Color Temperature: 5968K

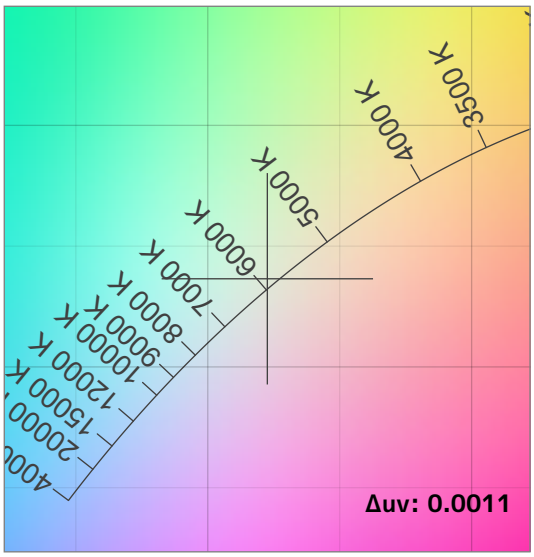
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.9	87.3	89.3	102.7	92	90.6	0.323	0.336	0.0011	29	58

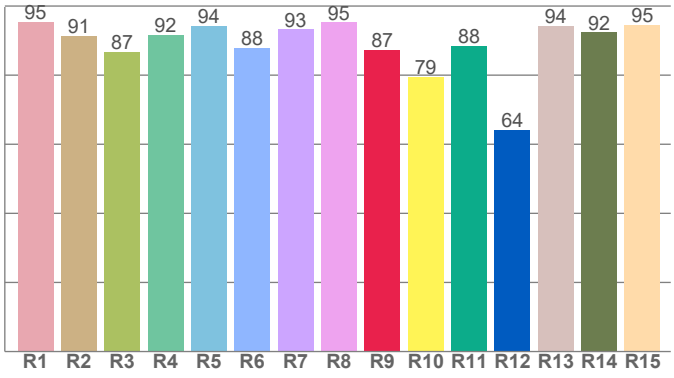
CIE 1931



CIE 1931 ZOOMED

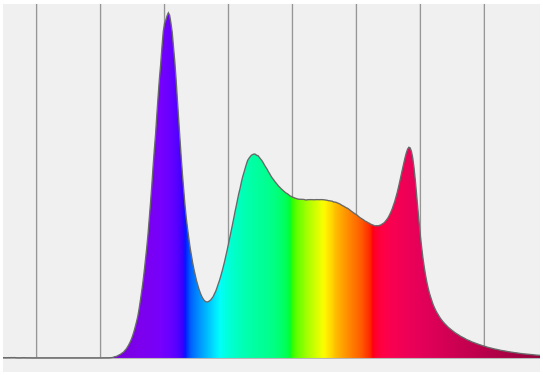


CRI: 91.9 (R1-R8)



Spectral Power Distribution (SPD)

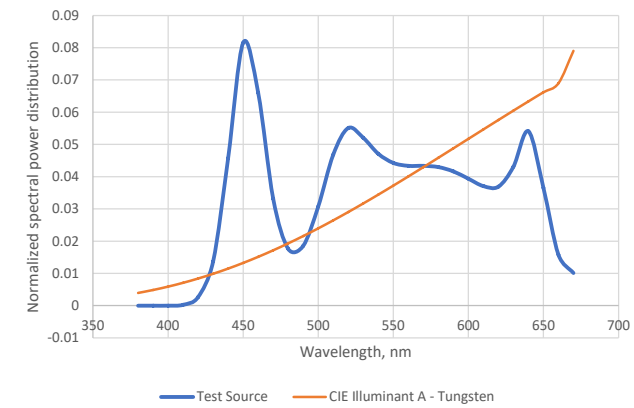
Dominant Wavelength 581 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 29

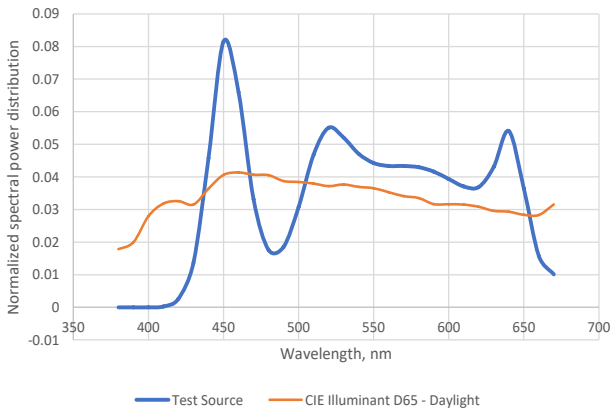
Spectral variance



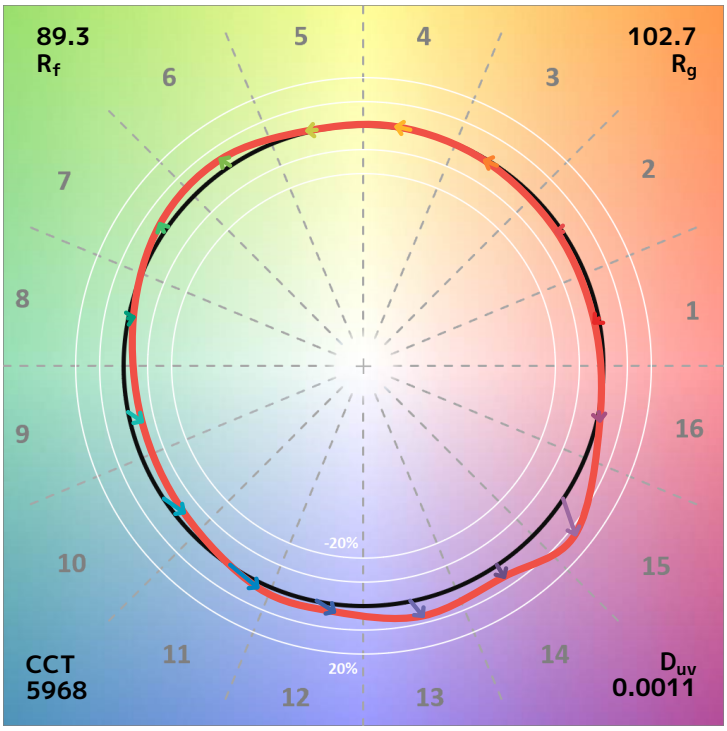
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 58

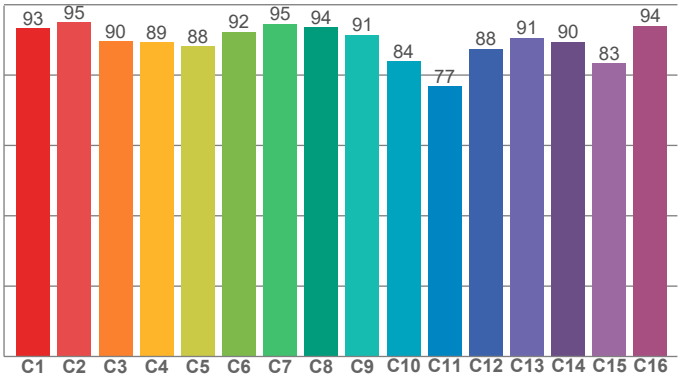
Spectral variance



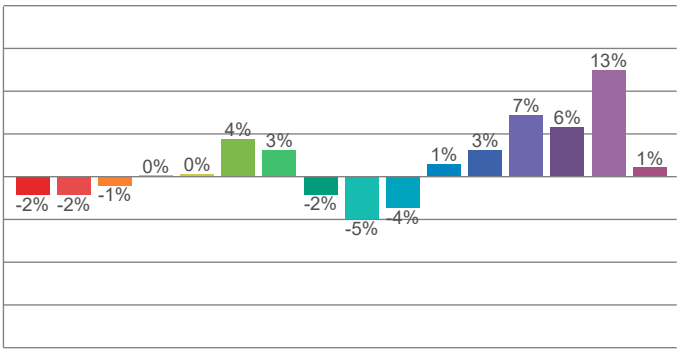
Measurement Date: 9/13/2024



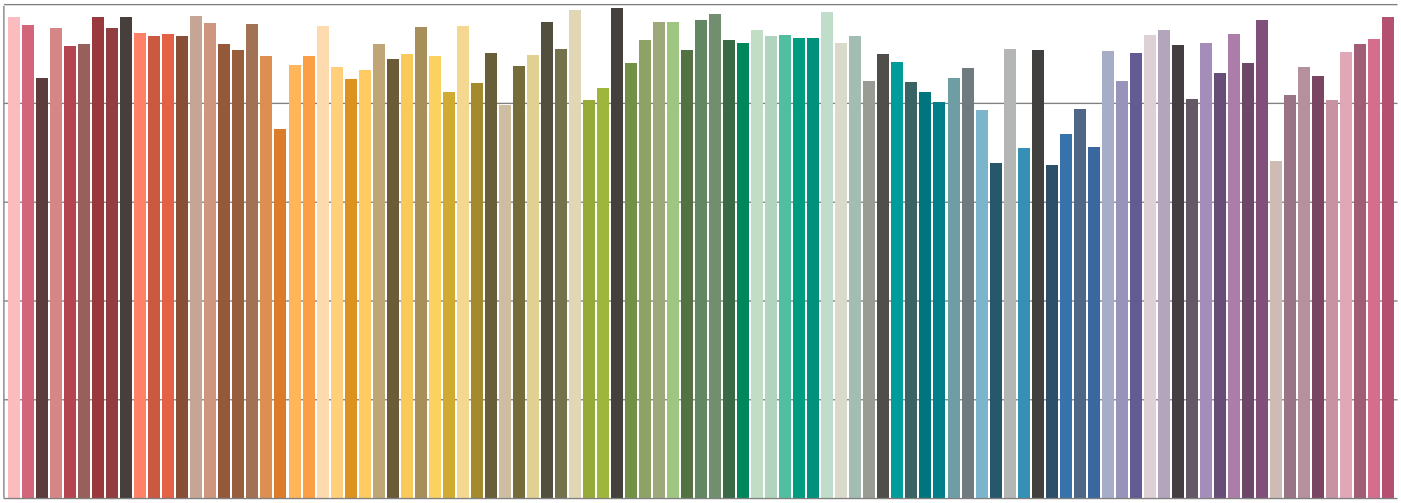
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (6000K- Highest Fidelity)

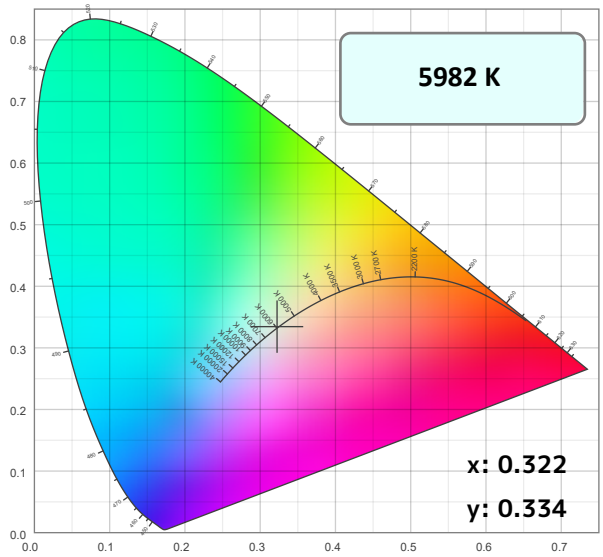
Prepared For ELATION PROFESSIONAL

Color Temperature: 5982K

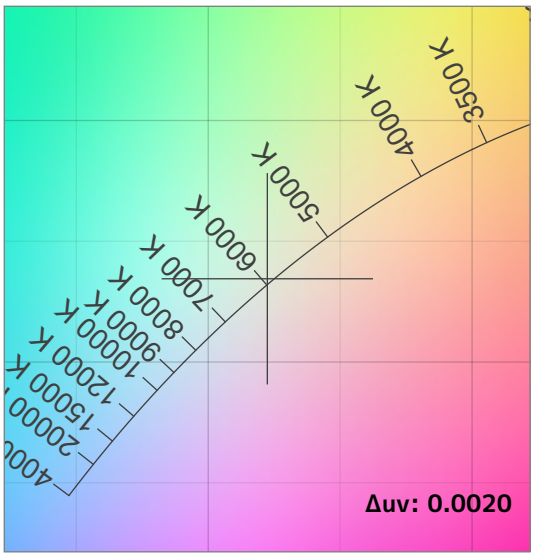
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.9	89.3	89.2	103.3	91	90.5	0.322	0.334	0.0020	29	58

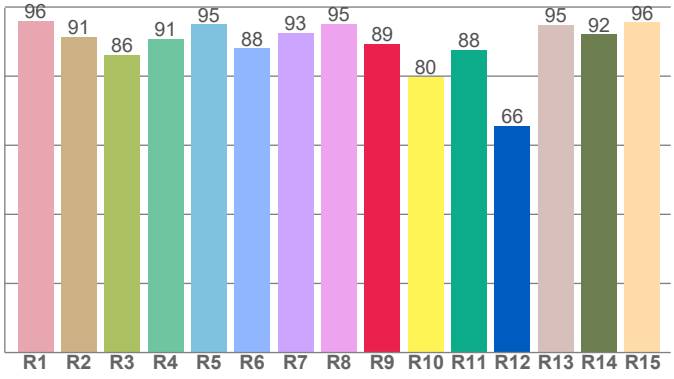
CIE 1931



CIE 1931 ZOOMED

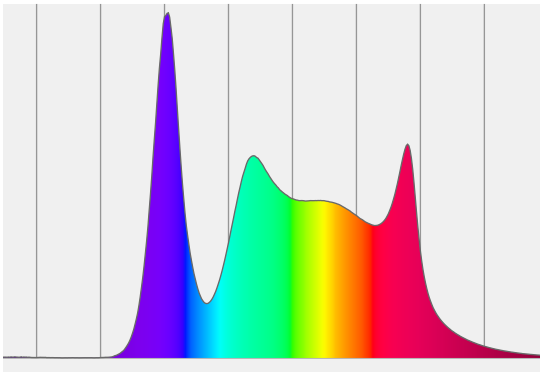


CRI: 91.9 (R1-R8)



Spectral Power Distribution (SPD)

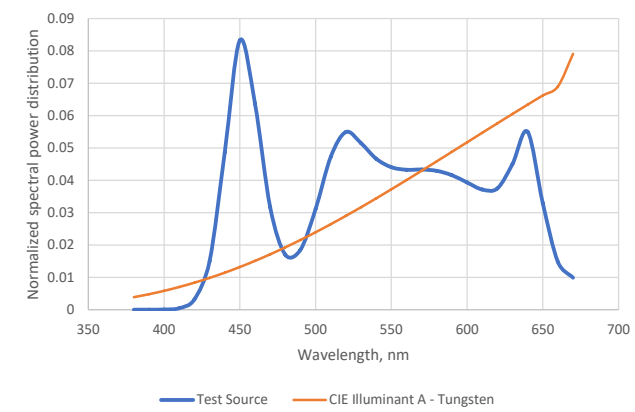
Dominant Wavelength 584 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 29

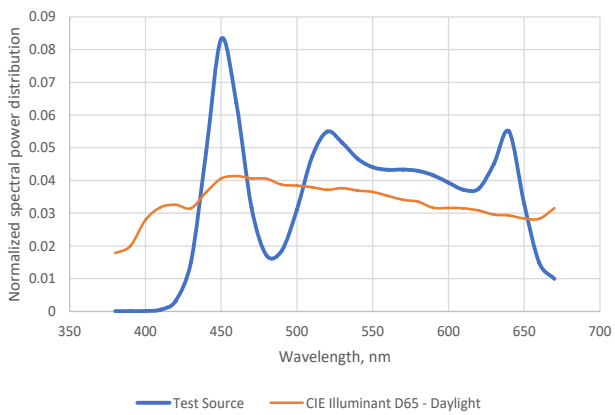
Spectral variance



SSI Spectral Variance Graph- Daylight

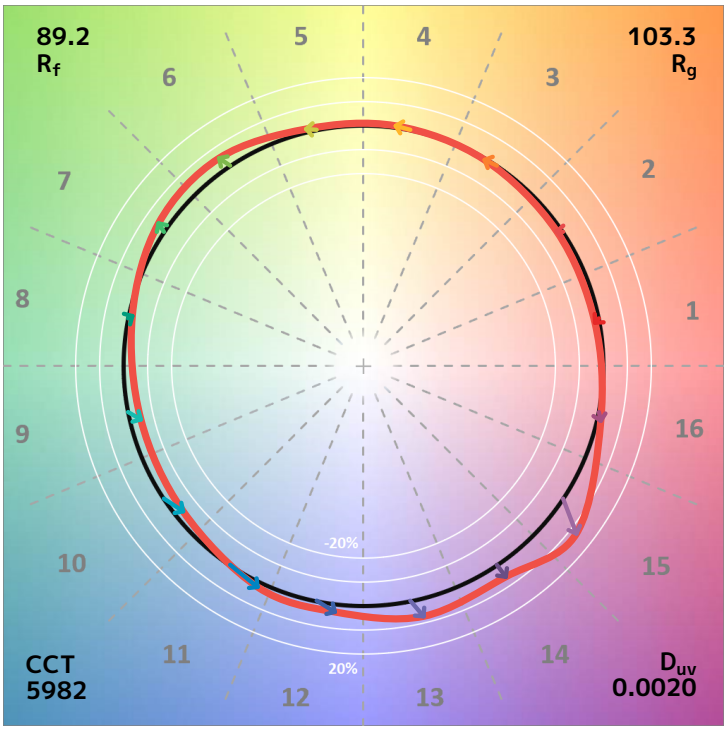
SSI [CIE D65] 58

Spectral variance

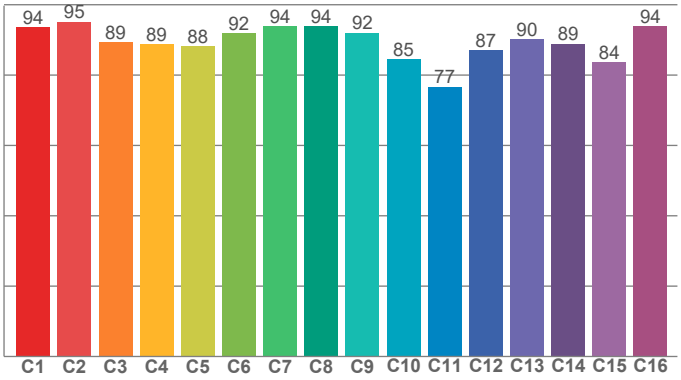


Measurement Date: 9/13/2024

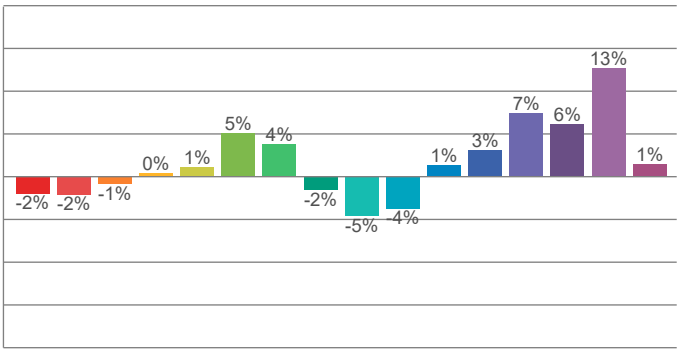
KL FRESNEL 4 FC (6000K-Highest Fidelity)



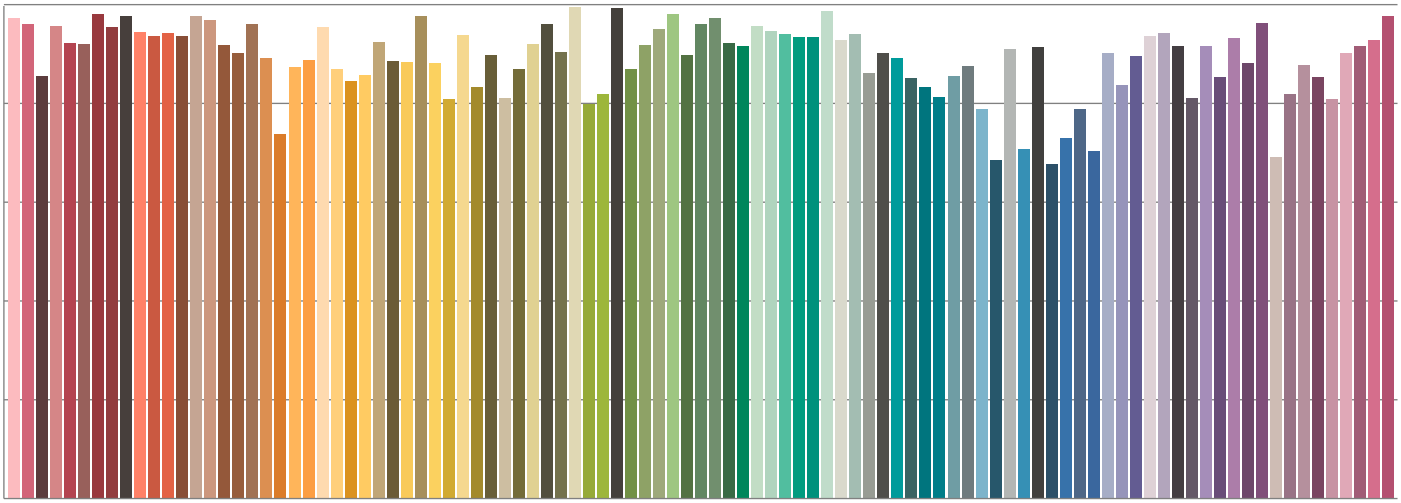
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



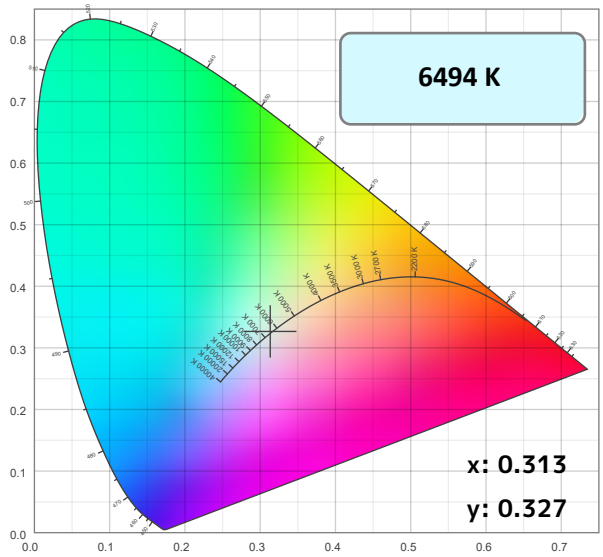
Measurement Date: 9/13/2024

Color Temperature: 6494K

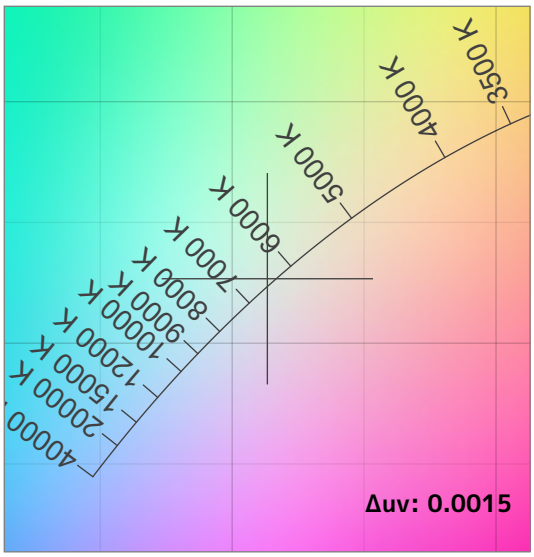
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.2	78.7	88.3	101.7	91	89.4	0.313	0.327	0.0015	23	58

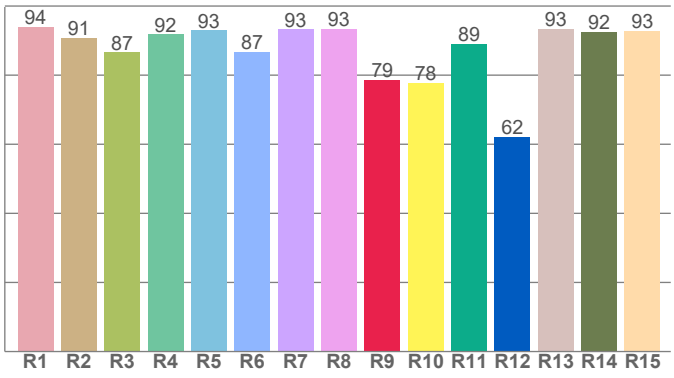
CIE 1931



CIE 1931 ZOOMED

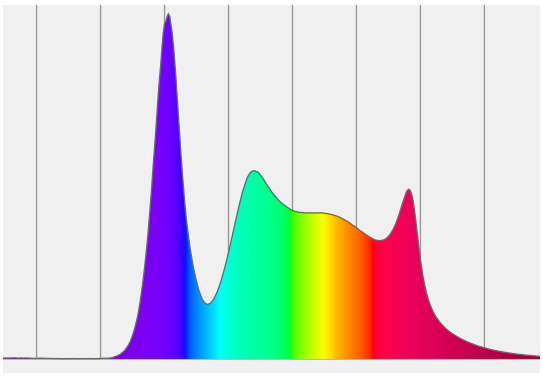


CRI: 91.2 (R1-R8)



Spectral Power Distribution (SPD)

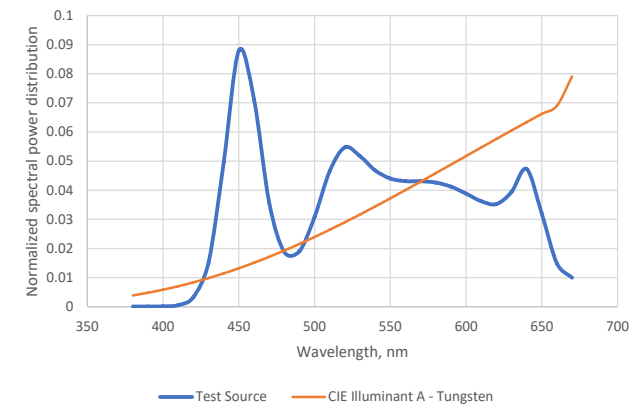
Dominant Wavelength 360 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 23

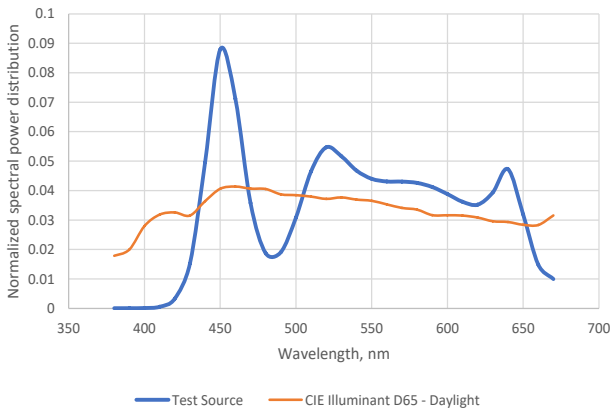
Spectral variance



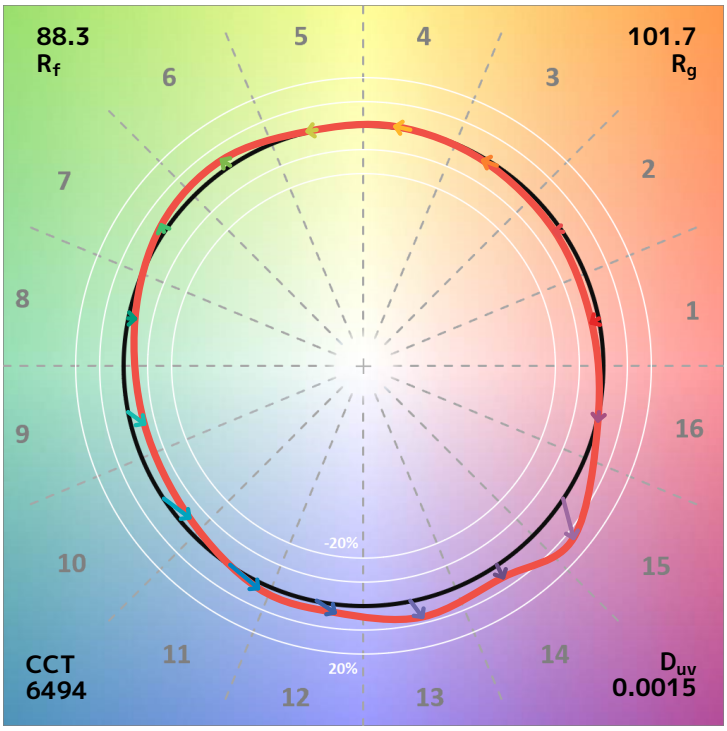
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 58

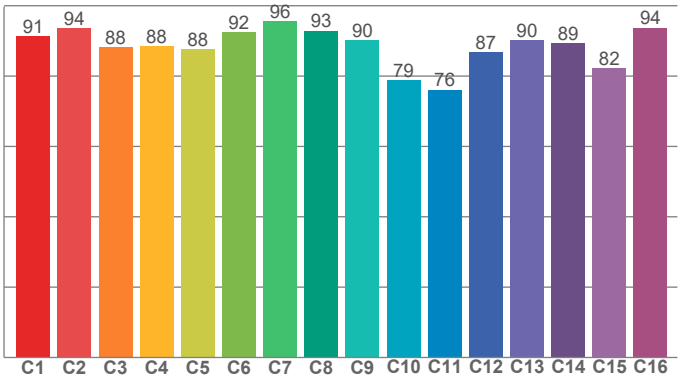
Spectral variance



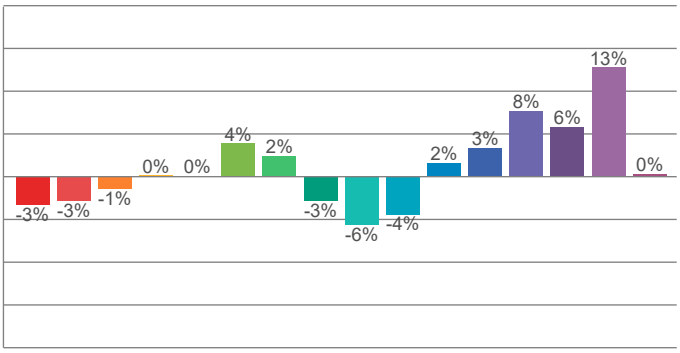
Measurement Date: 9/13/2024



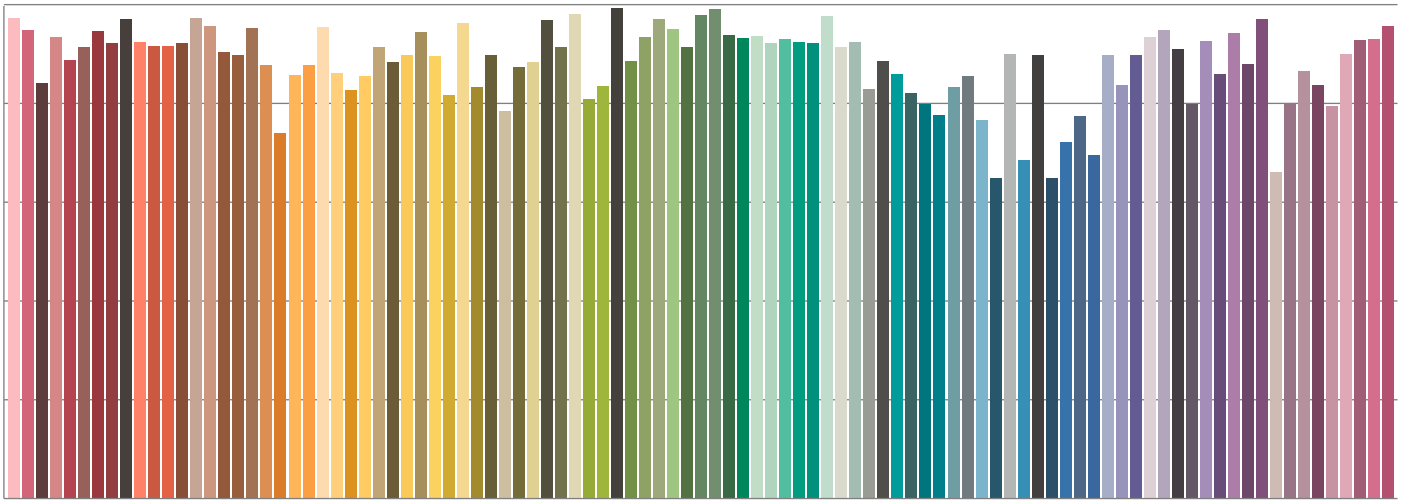
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (6500K- Highest Fidelity)

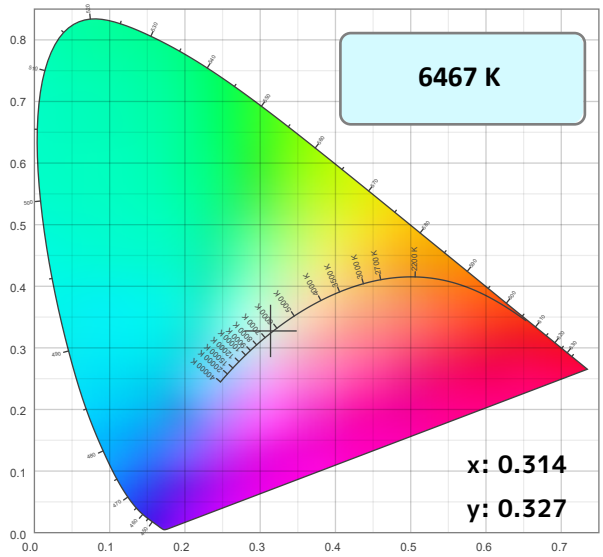
Prepared For ELATION PROFESSIONAL

Color Temperature: 6467K

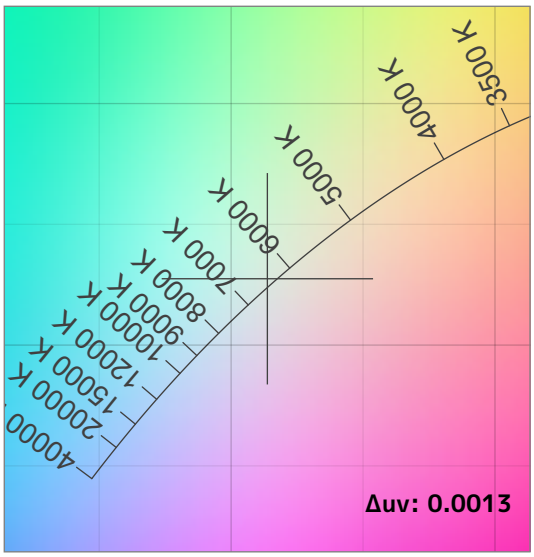
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
91.5	84.6	88.7	102.2	92	90.0	0.314	0.327	0.0013	24	58

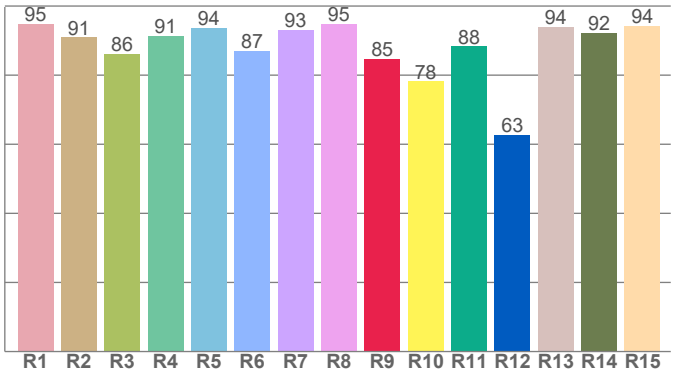
CIE 1931



CIE 1931 ZOOMED

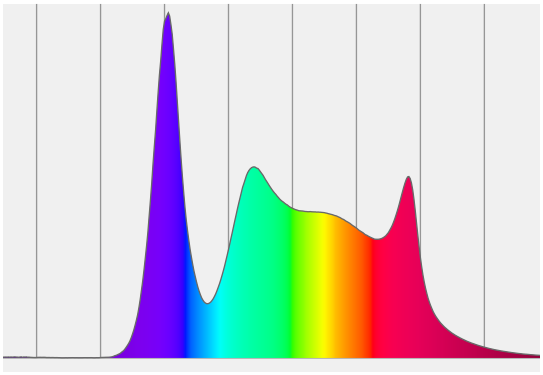


CRI: 91.5 (R1-R8)



Spectral Power Distribution (SPD)

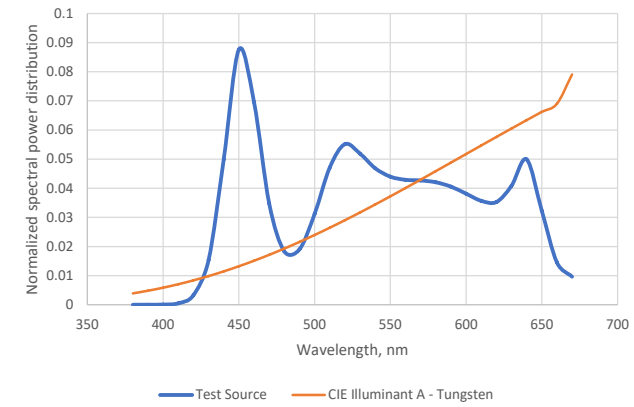
Dominant Wavelength 829 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 24

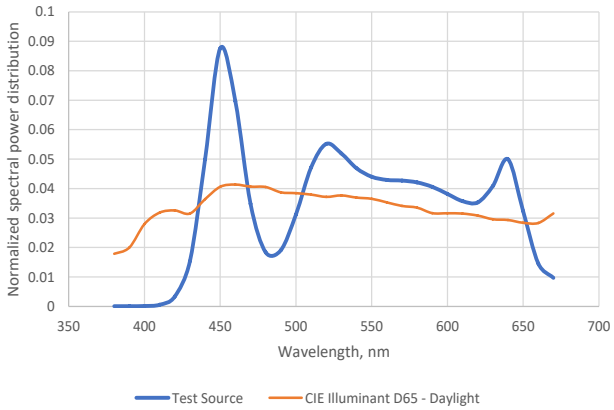
Spectral variance



SSI Spectral Variance Graph- Daylight

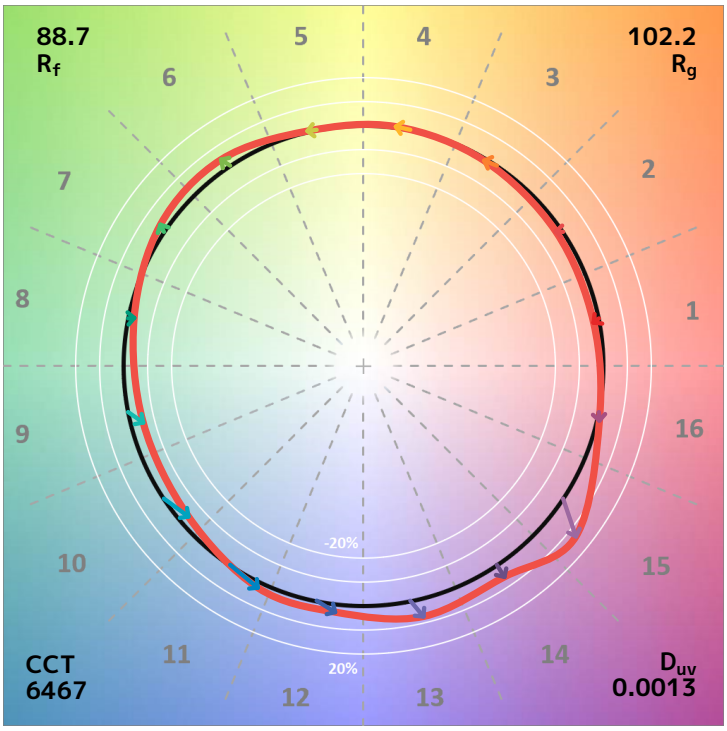
SSI [CIE D65] 58

Spectral variance

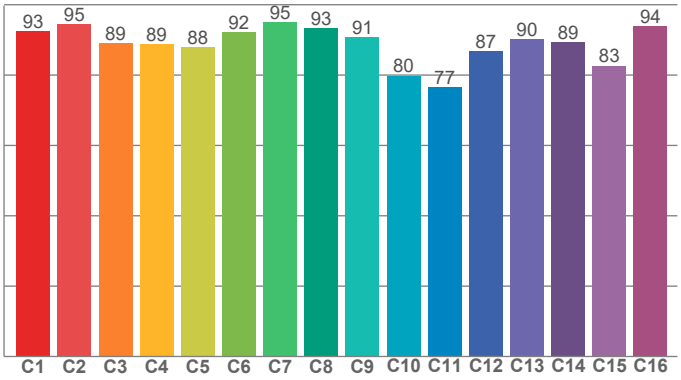


Measurement Date: 9/13/2024

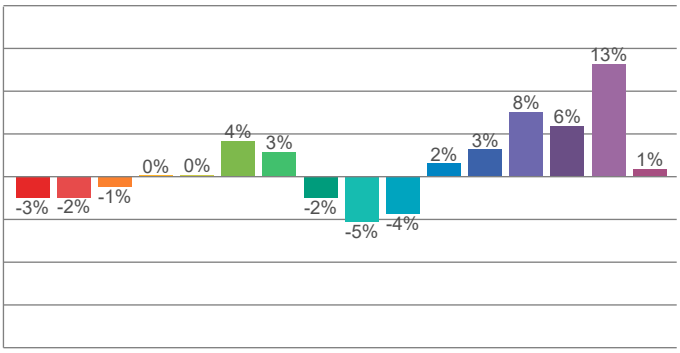
KL FRESNEL 4 FC (6500K- Highest Fidelity)



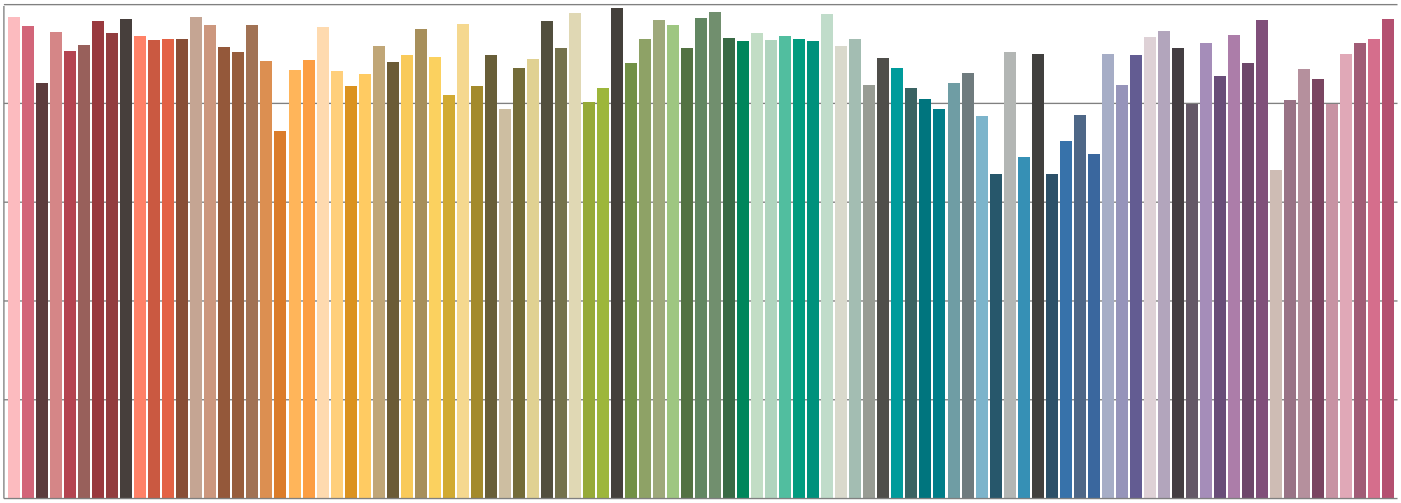
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



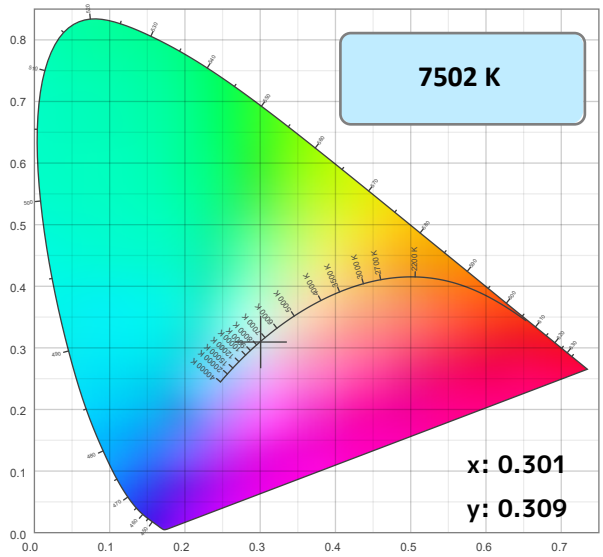
Measurement Date: 9/13/2024

Color Temperature: 7502K

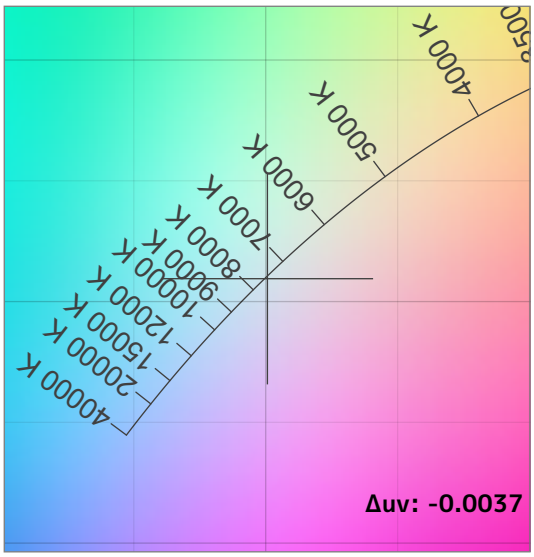
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
82.4	7.6	80.4	95.3	65	77.9	0.301	0.309	-0.0037	8	52

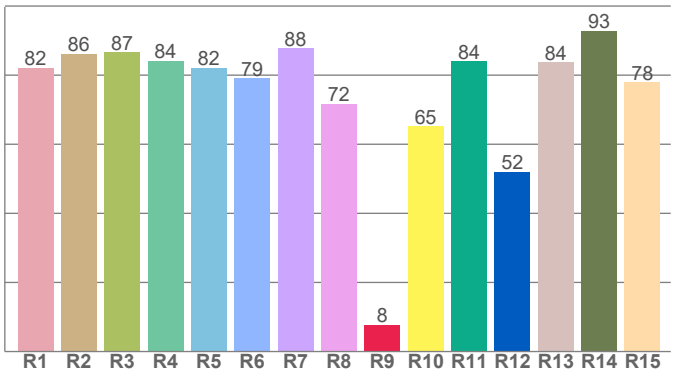
CIE 1931



CIE 1931 ZOOMED

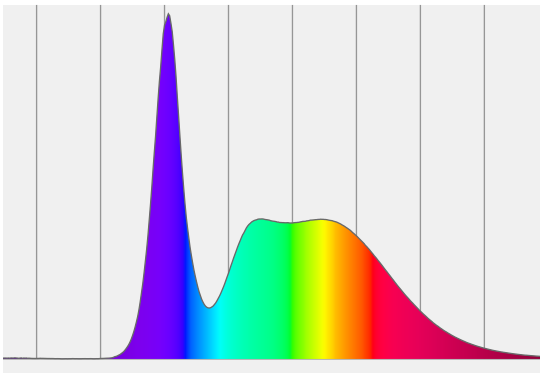


CRI: 82.4 (R1-R8)



Spectral Power Distribution (SPD)

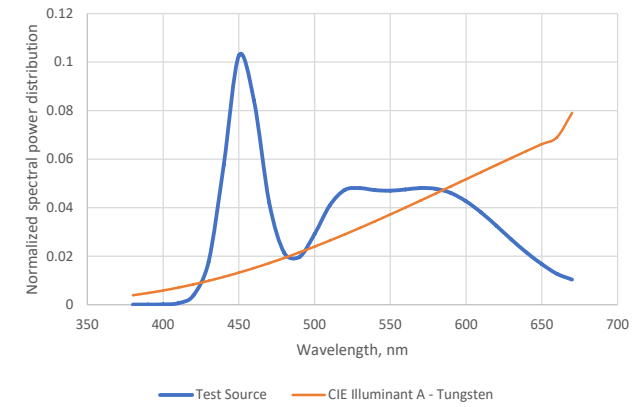
Dominant Wavelength 465 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 8

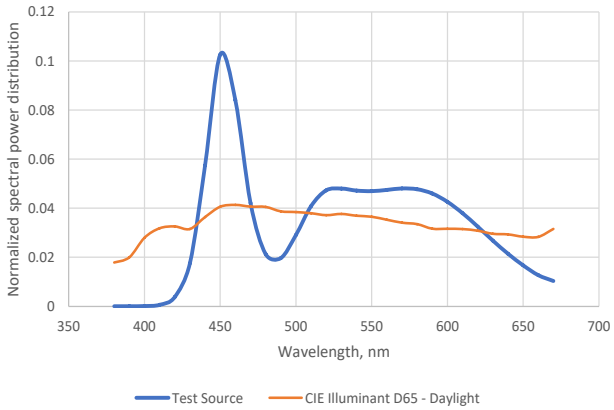
Spectral variance



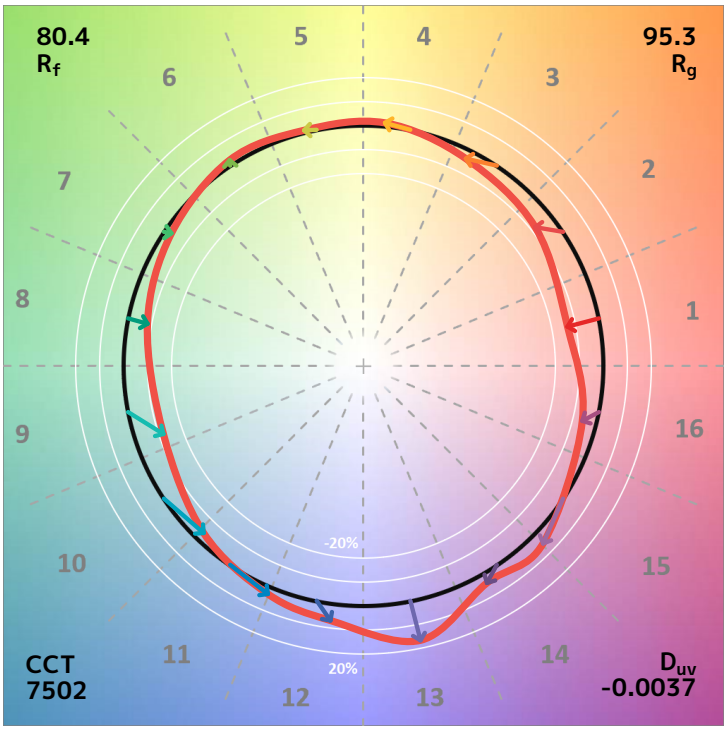
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 52

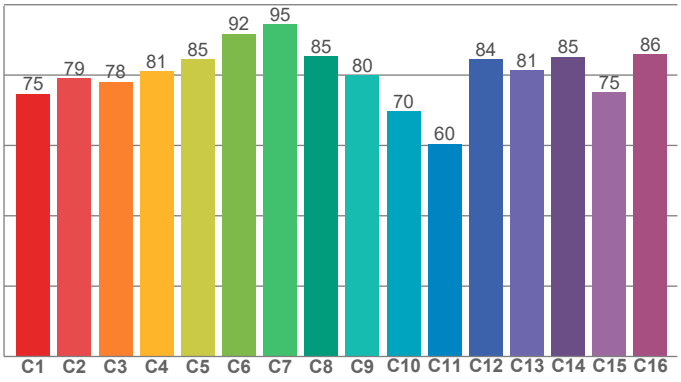
Spectral variance



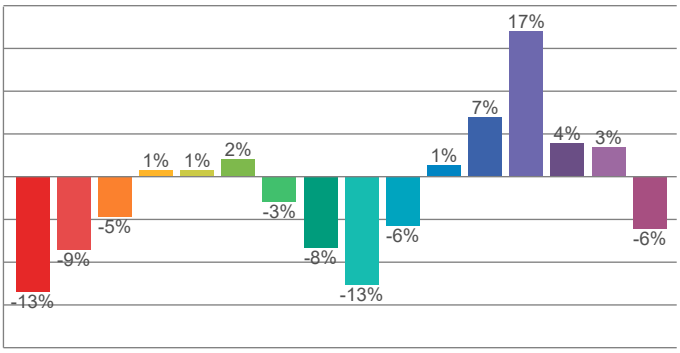
Measurement Date: 9/13/2024



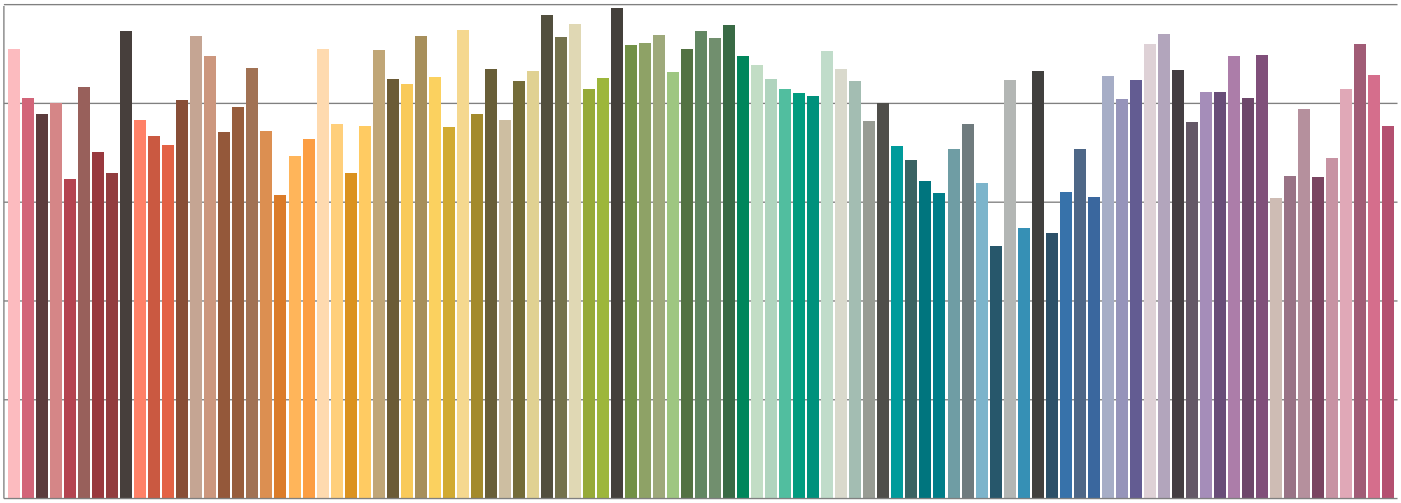
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (7500K- Highest Fidelity)

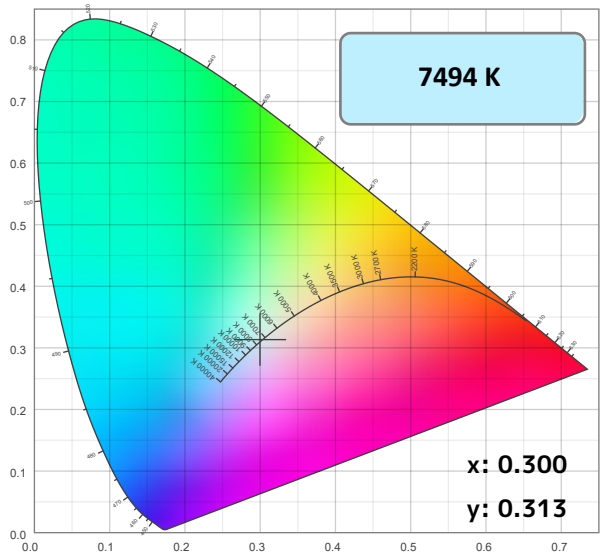
Prepared For ELATION PROFESSIONAL

Color Temperature: 7494K

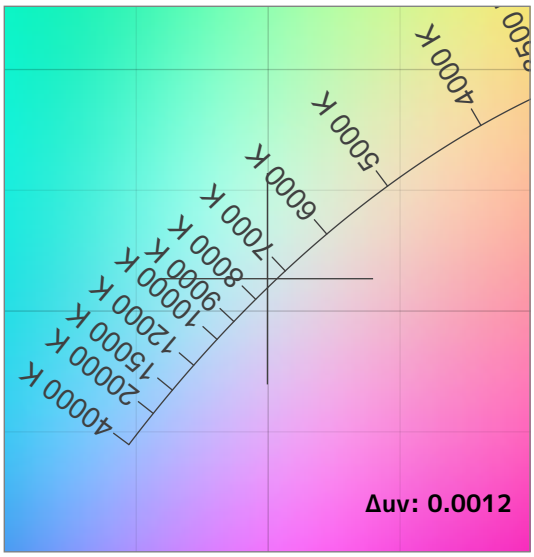
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
90.5	85.0	87.4	101.2	91	88.5	0.300	0.313	0.0012	14	56

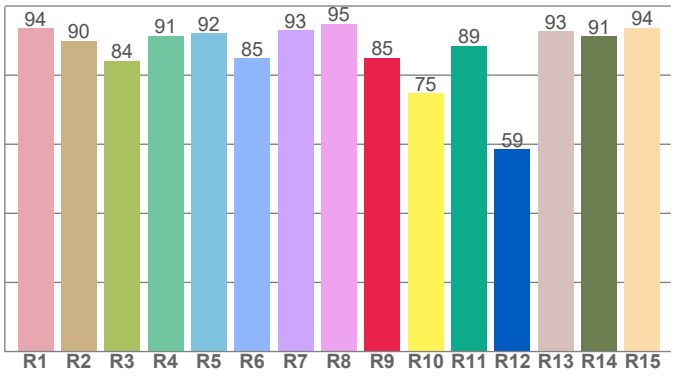
CIE 1931



CIE 1931 ZOOMED

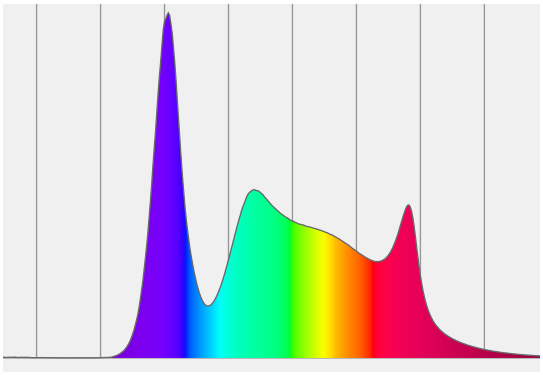


CRI: 90.5 (R1-R8)



Spectral Power Distribution (SPD)

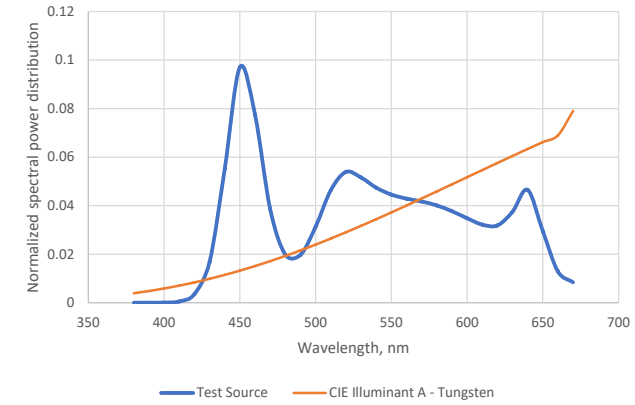
Dominant Wavelength 475 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 14

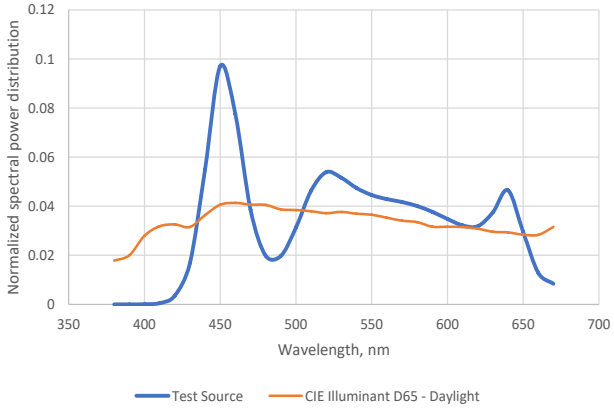
Spectral variance



SSI Spectral Variance Graph- Daylight

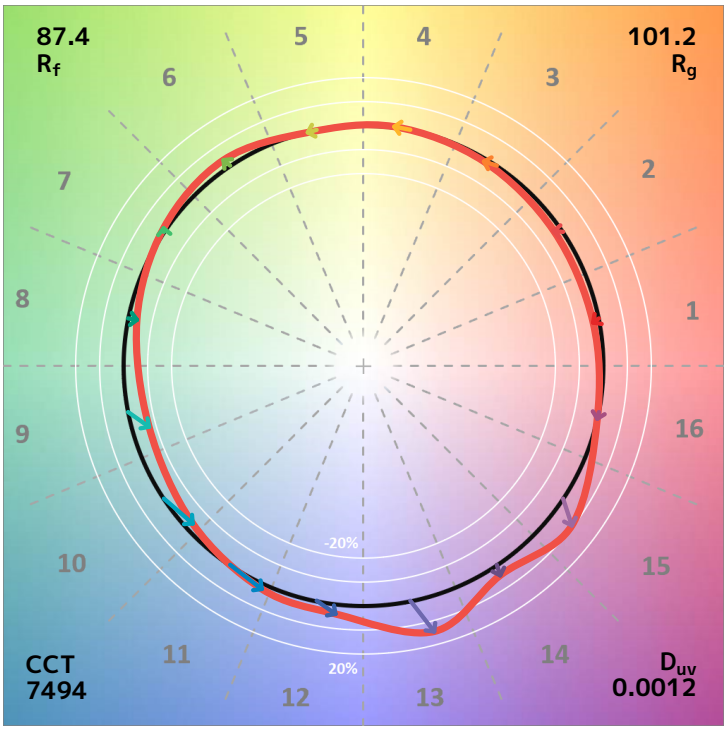
SSI [CIE D65] 56

Spectral variance

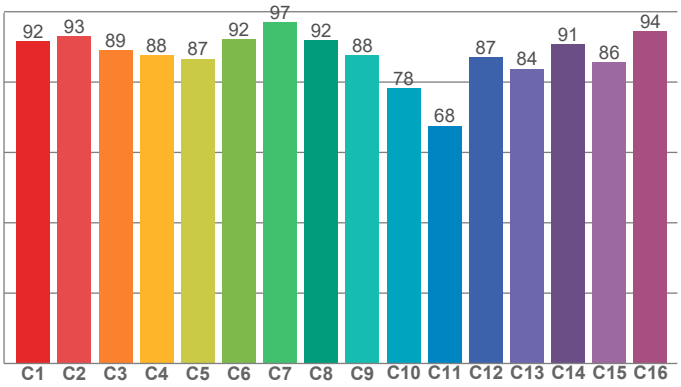


Measurement Date: 9/13/2024

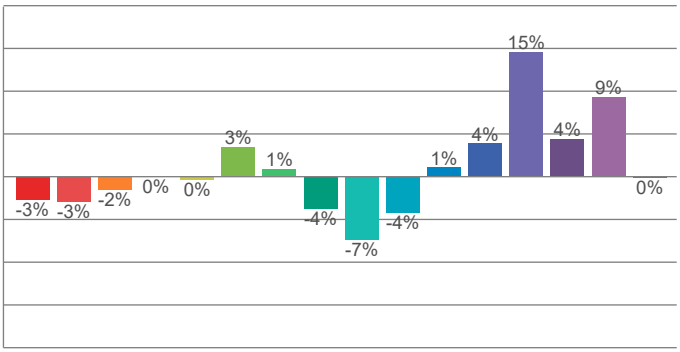
KL FRESNEL 4 FC (7500K-Highest Fidelity)



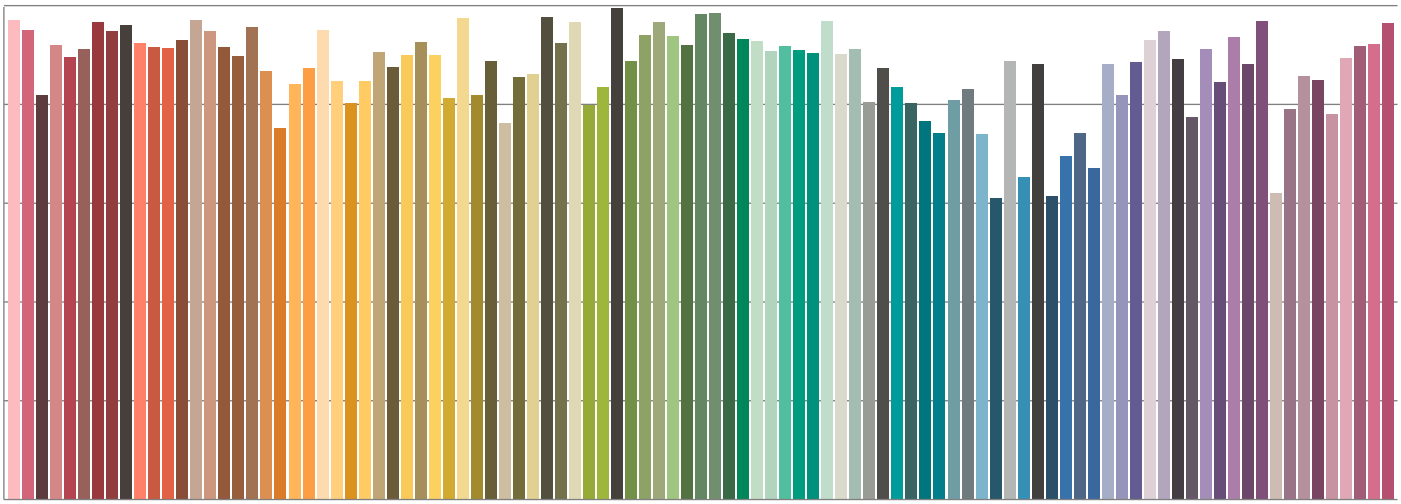
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



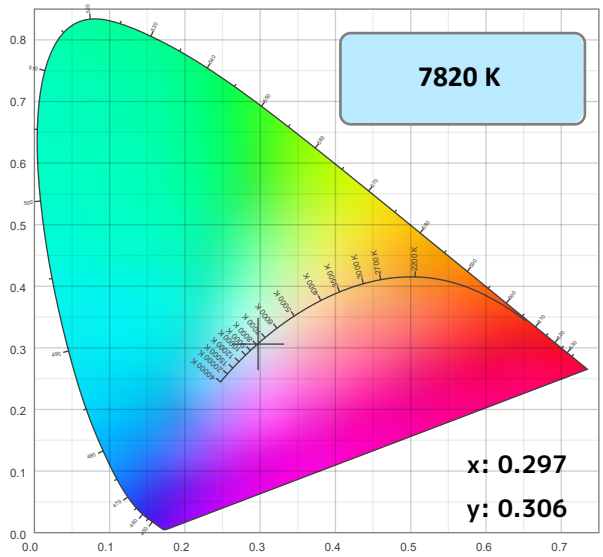
Measurement Date: 9/13/2024

Color Temperature: 7820K

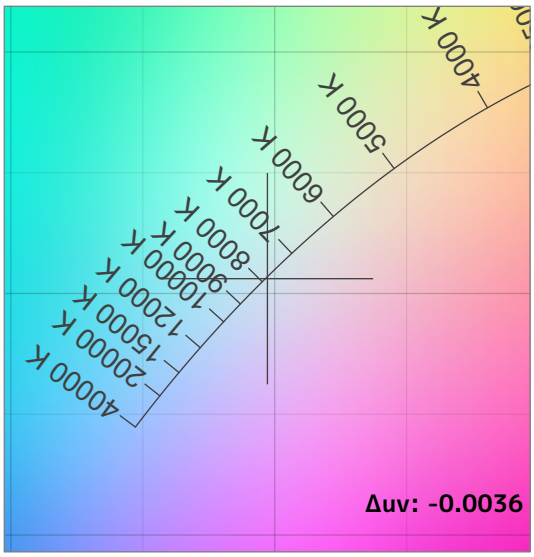
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
81.9	5.6	79.8	94.7	63	77.2	0.297	0.306	-0.0036	6	51

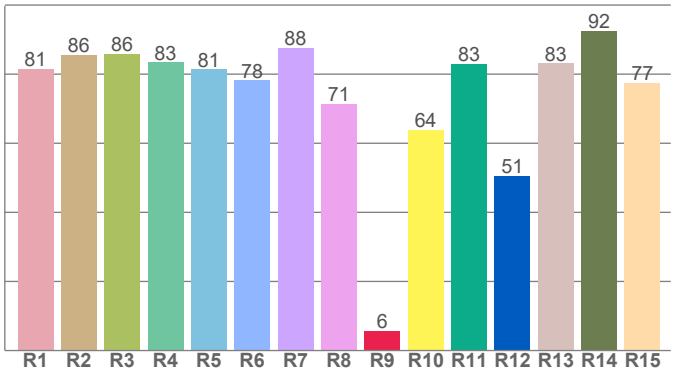
CIE 1931



CIE 1931 ZOOMED

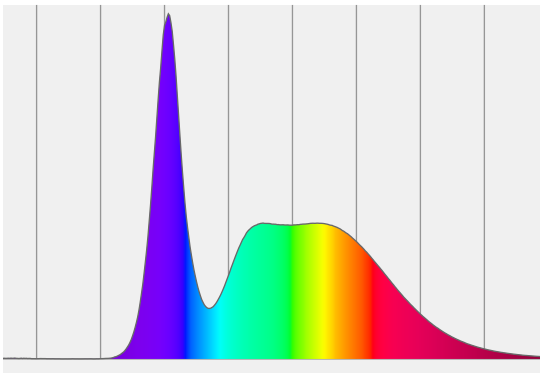


CRI: 81.9 (R1-R8)



Spectral Power Distribution (SPD)

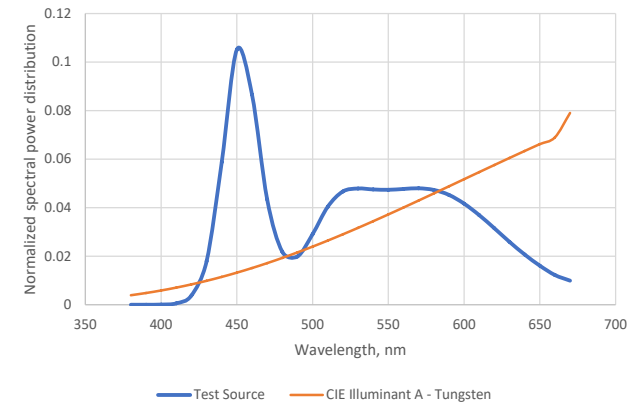
Dominant Wavelength 469 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 6

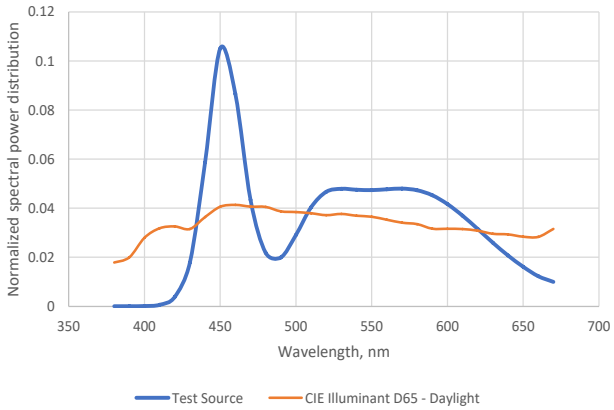
Spectral variance



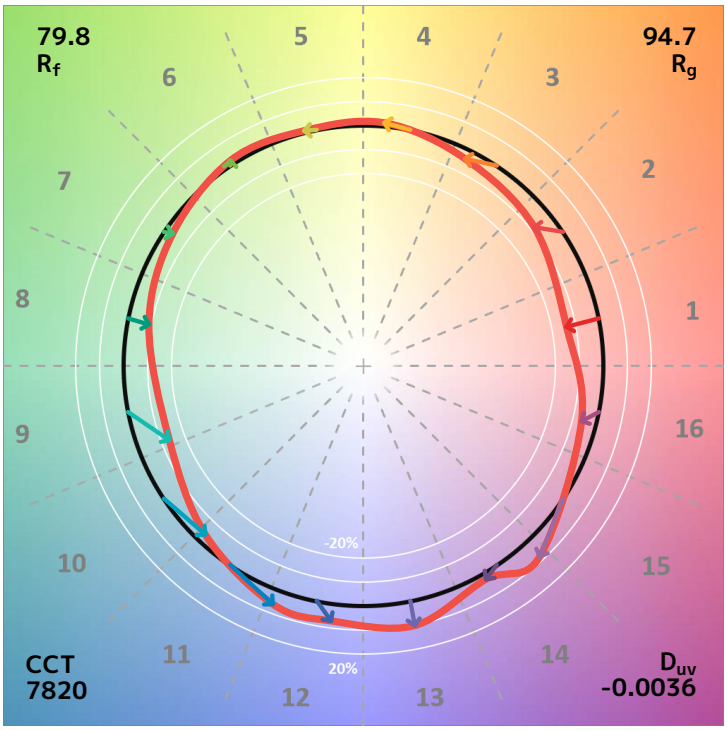
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 51

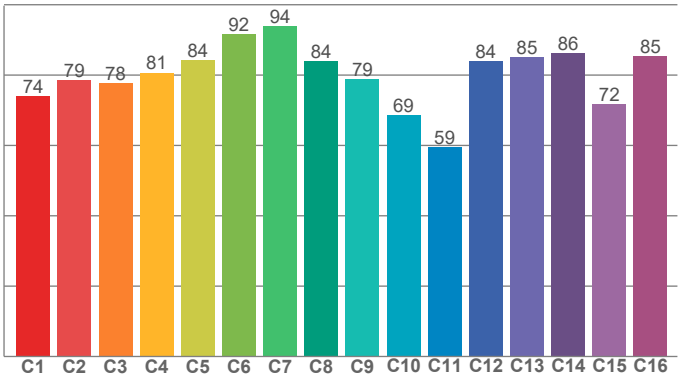
Spectral variance



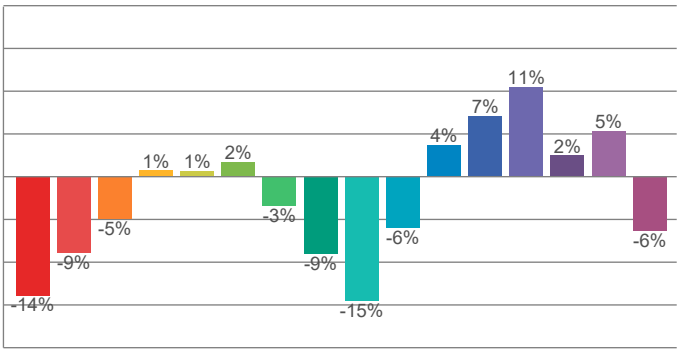
Measurement Date: 9/13/2024



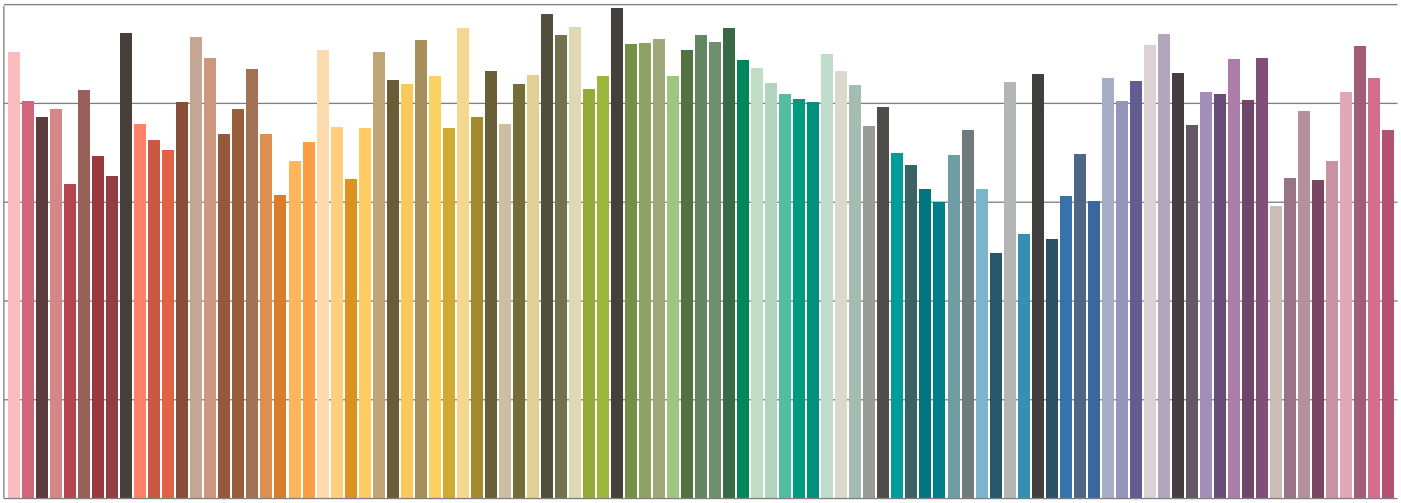
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (8500K- Highest Fidelity)

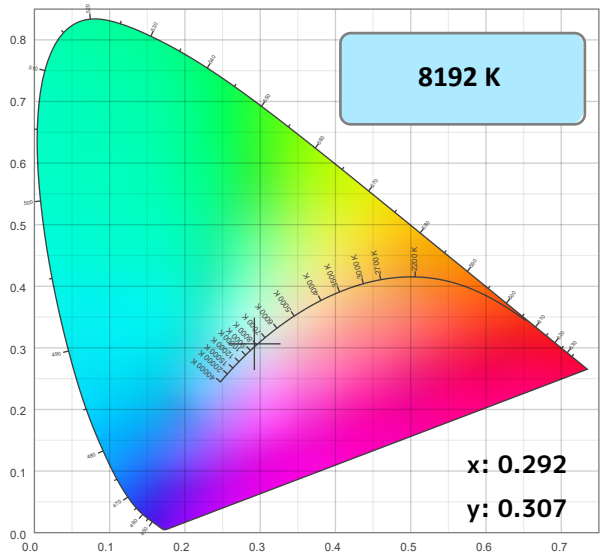
Prepared For ELATION PROFESSIONAL

Color Temperature: 8192K

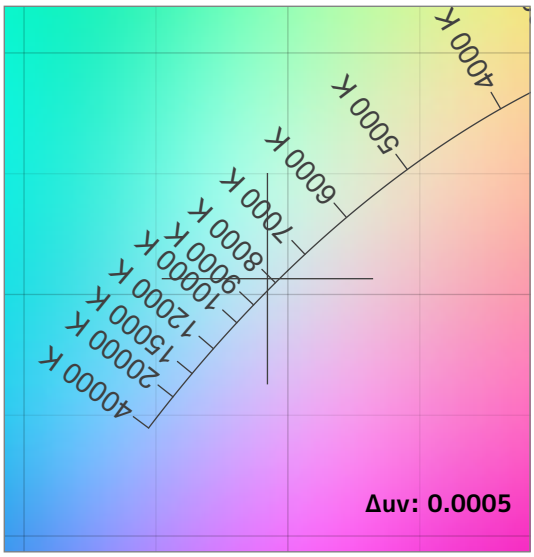
Accuracy Metric Overview

Color Rendering Index	Color Rendering Index, R9 (Red Component)	TM-30 Color Fidelity	TM-30 Color Gamut	Television Lighting Consistency Index	Color Quality Scale	Color Coordinate-CIE 1931	Color Coordinate-CIE 1931	Deviation from Black Body Locus	SSI [CIE A] Tungsten	SSI [CIE D65] Daylight
CRI	CRI R9	TM30 R_f	TM30 R_g	TLCI	CQS	x	Y	Δuv	SSIt	SSId
89.5	82.8	86.5	99.7	90	87.3	0.292	0.307	0.0005	10	54

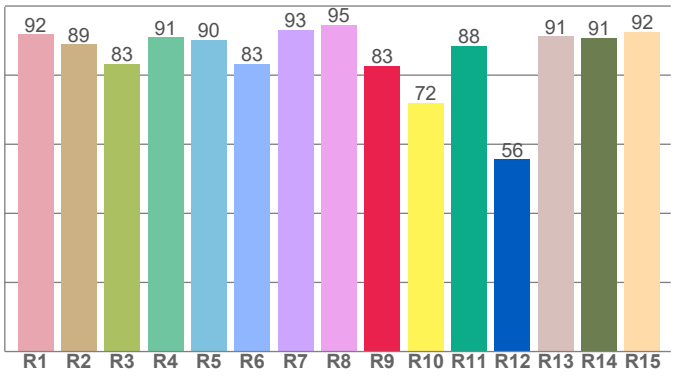
CIE 1931



CIE 1931 ZOOMED

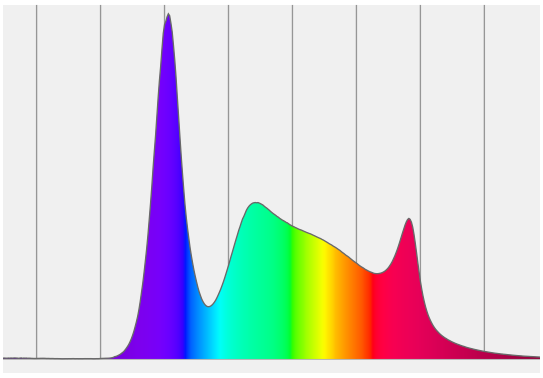


CRI: 89.5 (R1-R8)



Spectral Power Distribution (SPD)

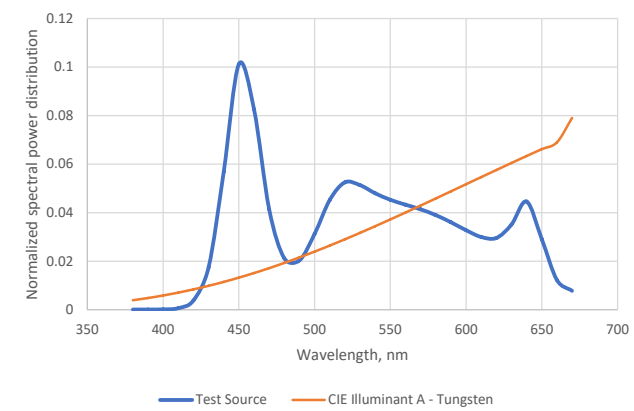
Dominant Wavelength 477 nm



SSI Spectral Variance Graph- Tungsten

SSI [CIE A] 10

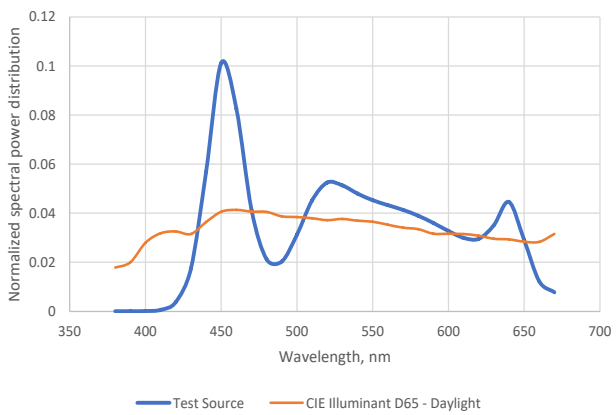
Spectral variance



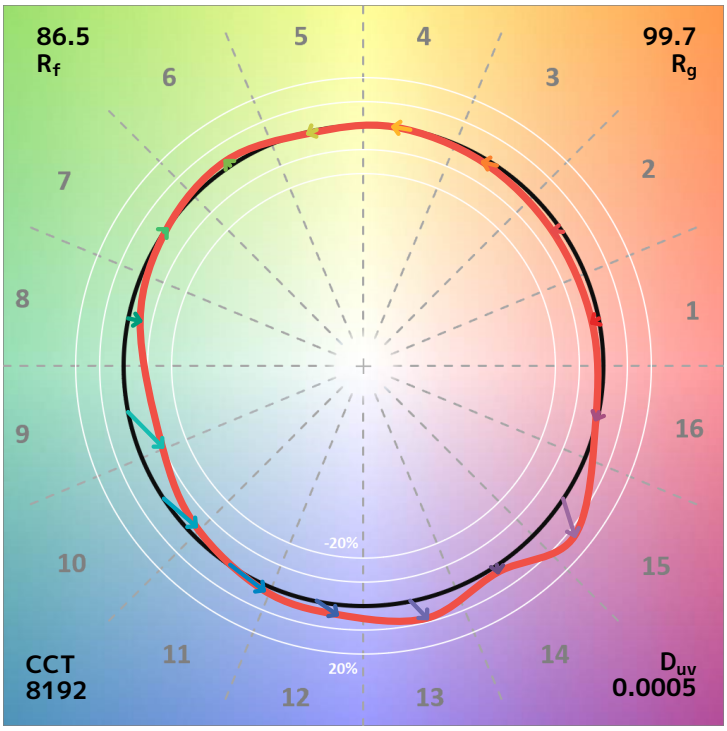
SSI Spectral Variance Graph- Daylight

SSI [CIE D65] 54

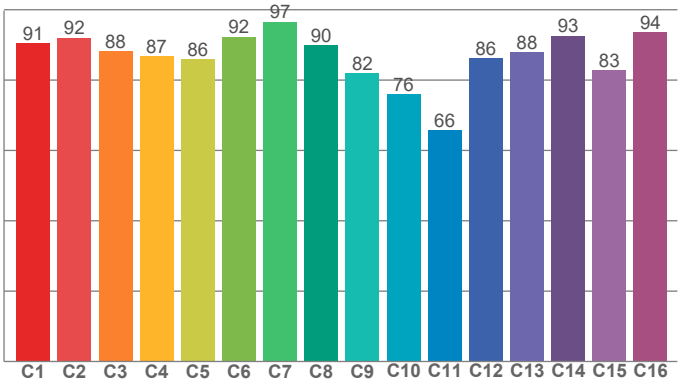
Spectral variance



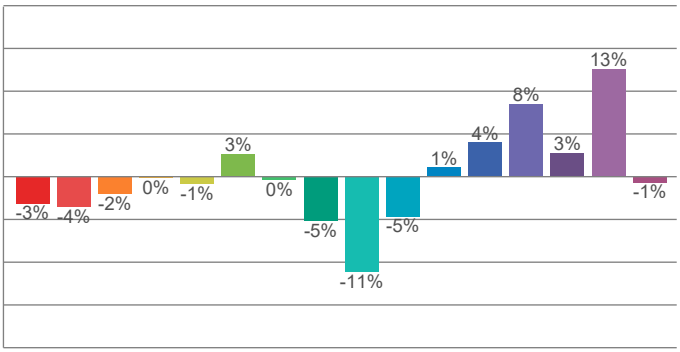
Measurement Date: 9/13/2024



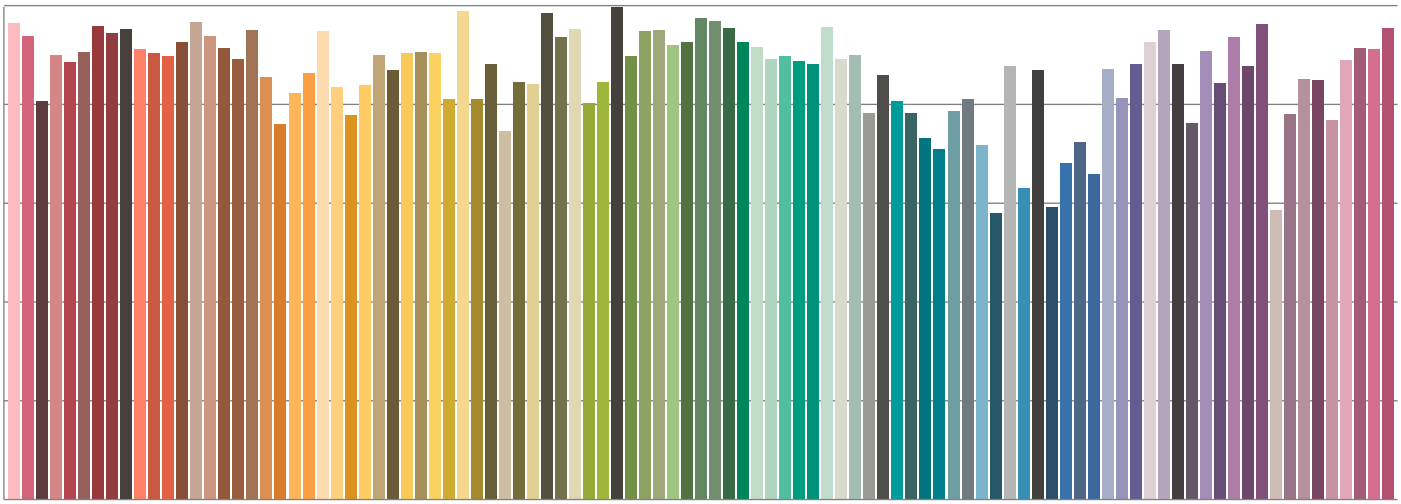
TM30-18 R_f Values per Hue Bin



TM30 Chroma Shift per Hue Bin



TM30-18 R_f Values per Reference Color (CES)



Measurement Date: 9/13/2024

KL FRESNEL 4 FC (Red)

Measurements

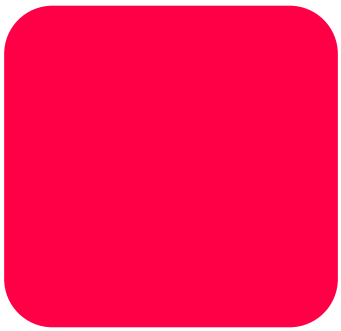
Total Lumen Output: 253 lm

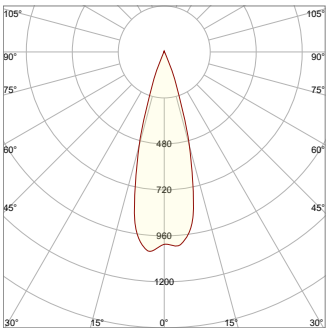
Peak Intensity: 1006 cd

Efficacy: 15 Lumen/Watt

Power: 17.1 W

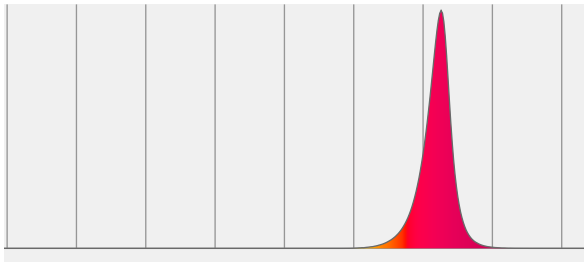
Voltage: 120 V, Current: 0.168 A

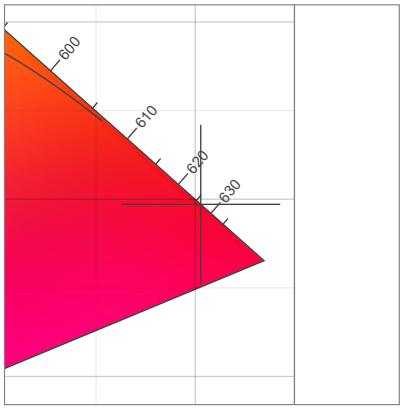




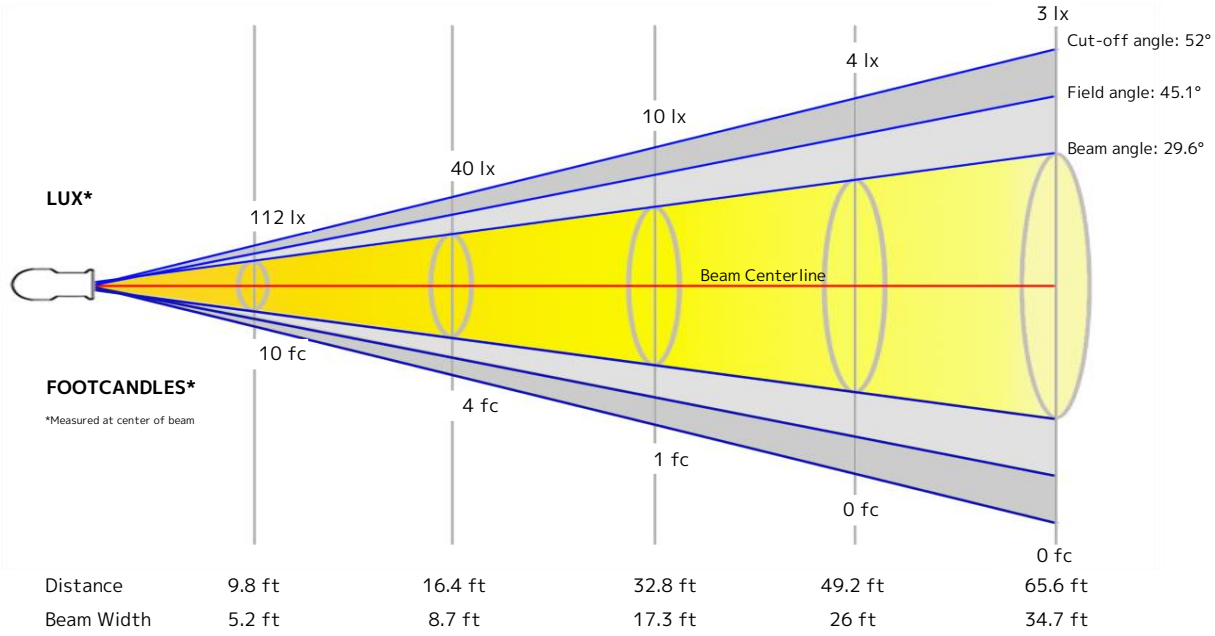
Spectral Power Distribution

Dominant Wavelength 626 nm





Dominant Wavelength	Color Coordinate CIE 1931	Color Coordinate CIE1931	Color Coordinate CIE 1964	Color Coordinate CIE 1964
nm	x	y	u	v
626	0.703	0.297	0.545	0.345



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	1004	251	112	63	40	28	20	16	12	10	8	7	6	5	4	4	3	3	3	3
FC	93.3	23.3	10.4	5.8	3.7	2.6	1.9	1.5	1.2	0.9	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.2

Measurement Date: 9/11/2024

Measurements

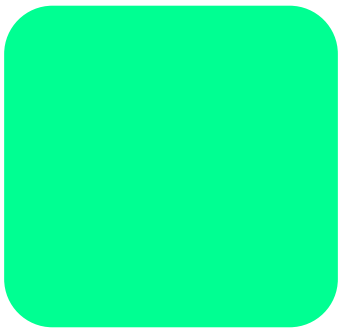
Total Lumen Output: 502 lm

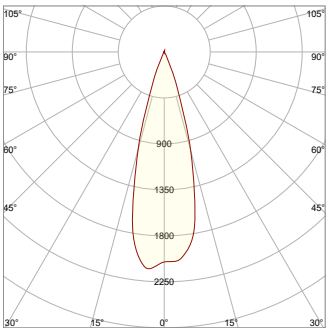
Peak Intensity: 2055 cd

Efficacy: 27 Lumen/Watt

Power: 18.5 W

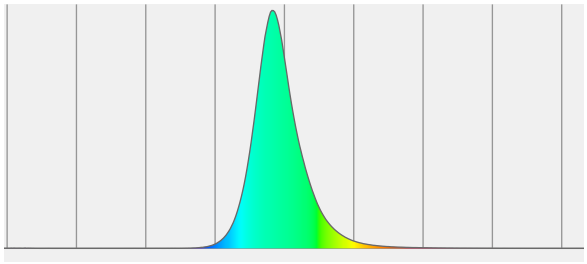
Voltage: 121 V, Current: 0.175 A

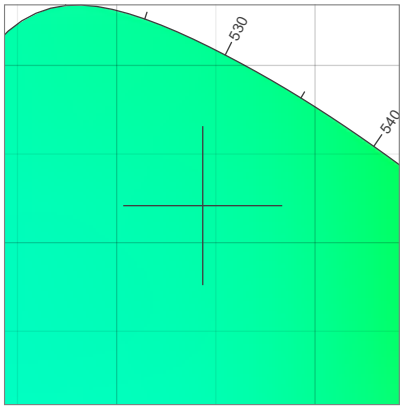




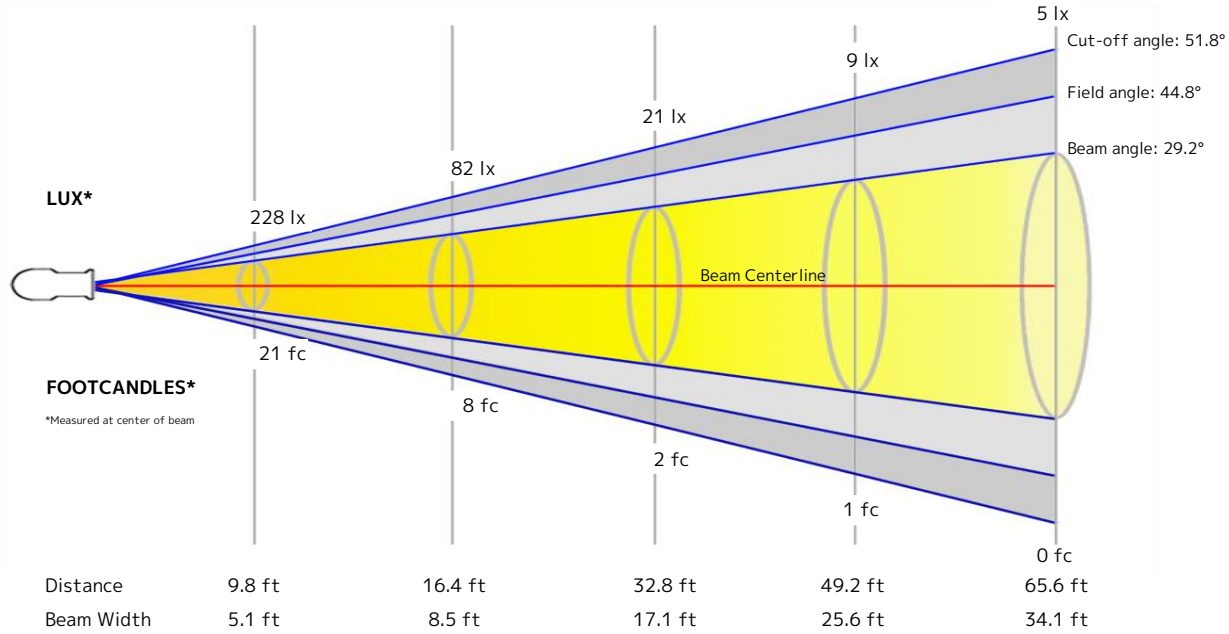
Spectral Power Distribution

Dominant Wavelength 523 nm





Dominant Wavelength	Color Coordinate CIE 1931	Color Coordinate CIE1931	Color Coordinate CIE 1964	Color Coordinate CIE 1964
nm	x	y	u	v
523	0.143	0.721	0.050	0.381



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	2055	514	228	128	82	57	42	32	25	21	17	14	12	10	9	8	7	6	6	5
FC	191	47.7	21.2	11.9	7.6	5.3	3.9	3	2.4	1.9	1.6	1.3	1.1	1	0.8	0.7	0.7	0.6	0.5	0.5

Measurement Date: 9/12/2024

Measurements

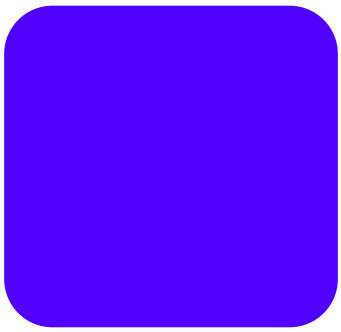
Total Lumen Output: 193 lm

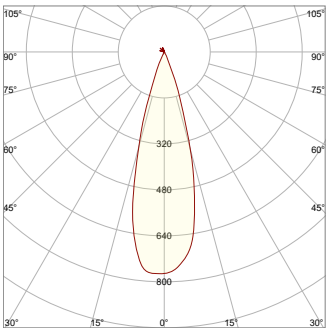
Peak Intensity: 766 cd

Efficacy: 6 Lumen/Watt

Power: 33.2 W

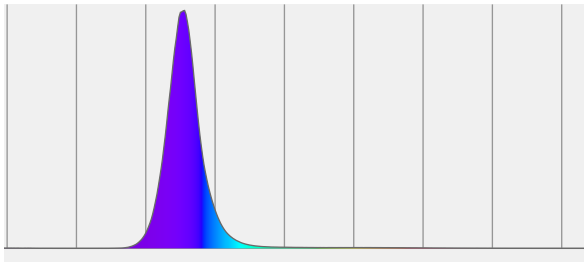
Voltage: 121 V, Current: 0.290 A

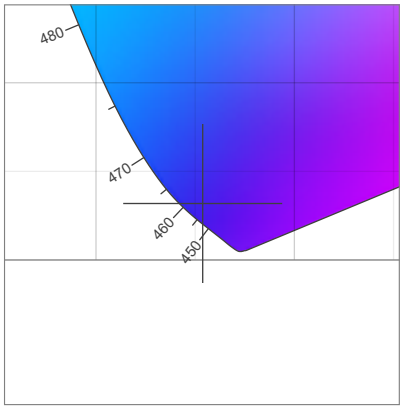




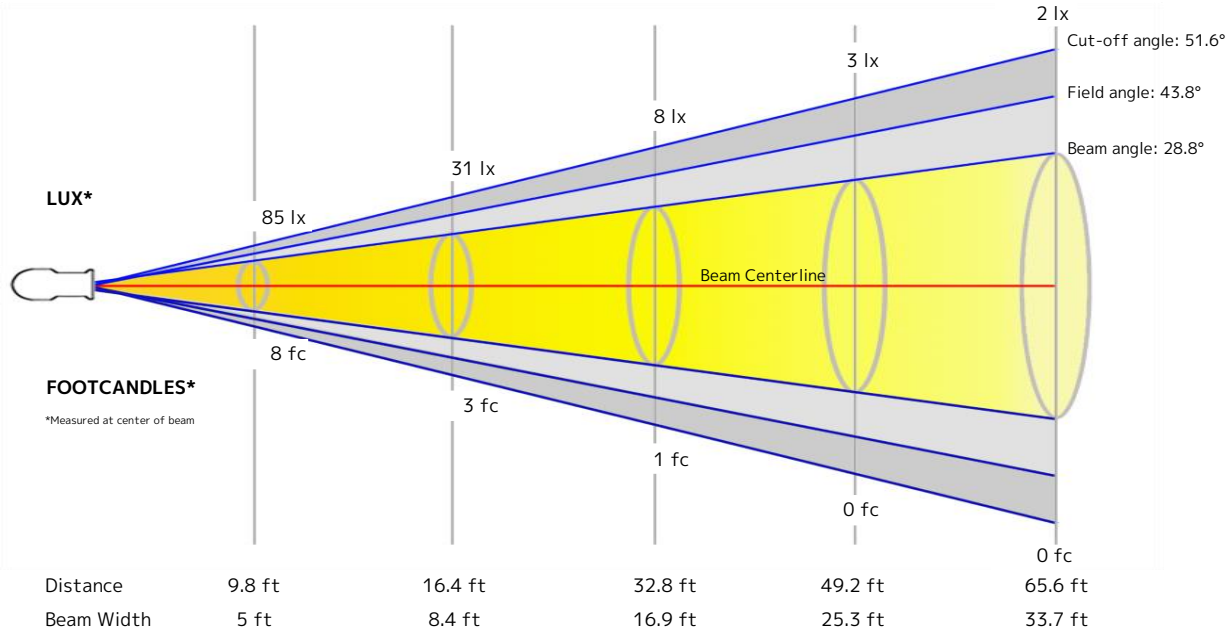
Spectral Power Distribution

Dominant Wavelength 456 nm





Dominant Wavelength	Color Coordinate CIE 1931	Color Coordinate CIE1931	Color Coordinate CIE 1964	Color Coordinate CIE 1964
nm	x	y	u	v
456	0.154	0.032	0.200	0.062



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	766	191	85	48	31	21	16	12	9	8	6	5	5	4	3	3	3	2	2	2
FC	71.2	17.8	7.9	4.4	2.8	2	1.5	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2

Measurement Date: 9/12/2024

Measurements

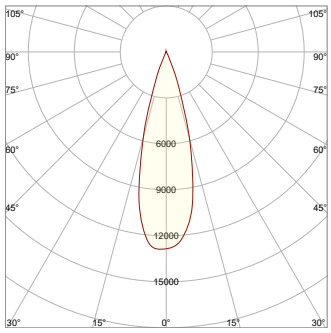
Total Lumen Output: 2978 lm

Peak Intensity: 12808 cd

Efficacy: 39 Lumen/Watt

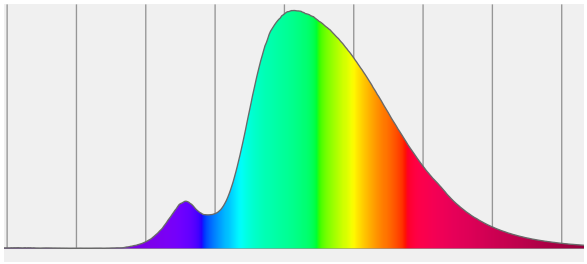
Power: 77.1 W

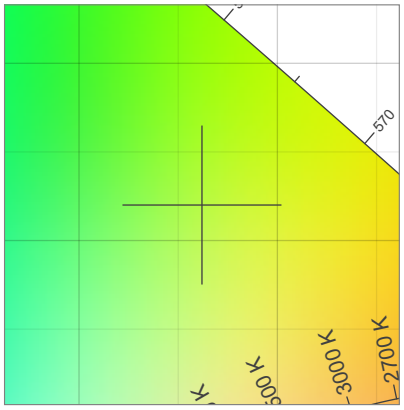
Voltage: 118 V, Current: 0.661 A



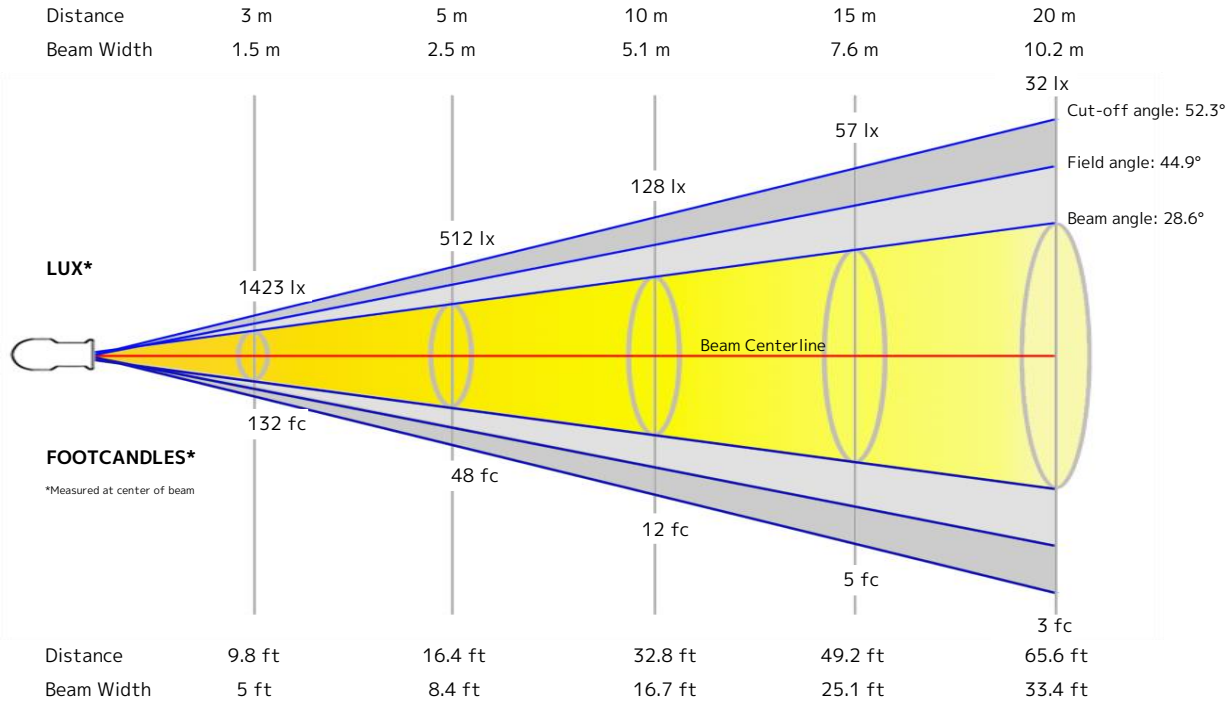
Spectral Power Distribution

Dominant Wavelength 562 nm





Dominant Wavelength	Color Coordinate CIE 1931	Color Coordinate CIE1931	Color Coordinate CIE 1964	Color Coordinate CIE 1964
nm	x	y	u	v
562	0.362	0.520	0.170	0.366



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	12808	3202	1423	800	512	356	261	200	158	128	106	89	76	65	57	50	44	40	35	32
FC	1189.9	297.5	132.2	74.4	47.6	33.1	24.3	18.6	14.7	11.9	9.8	8.3	7	6.1	5.3	4.6	4.1	3.7	3.3	3

Measurement Date: 9/12/2024

Measurements

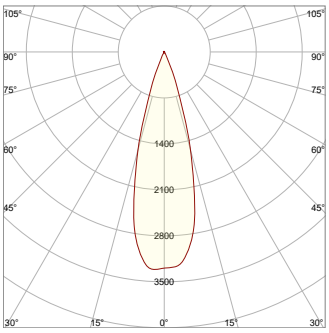
Total Lumen Output: 785 lm

Peak Intensity: 3289 cd

Efficacy: 17 Lumen/Watt

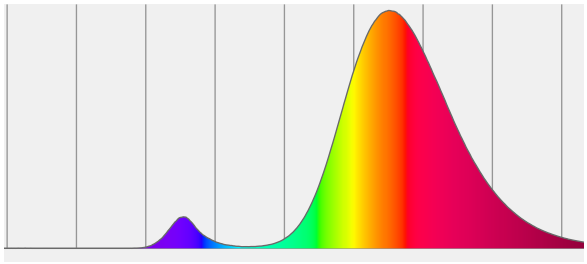
Power: 45.7 W

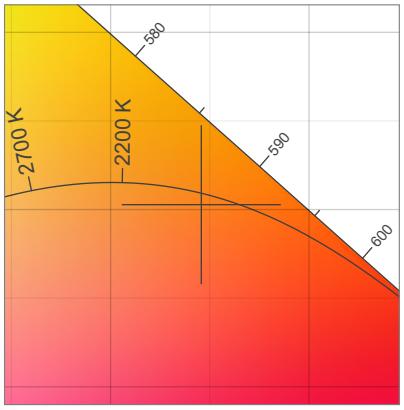
Voltage: 119 V, Current: 0.395 A



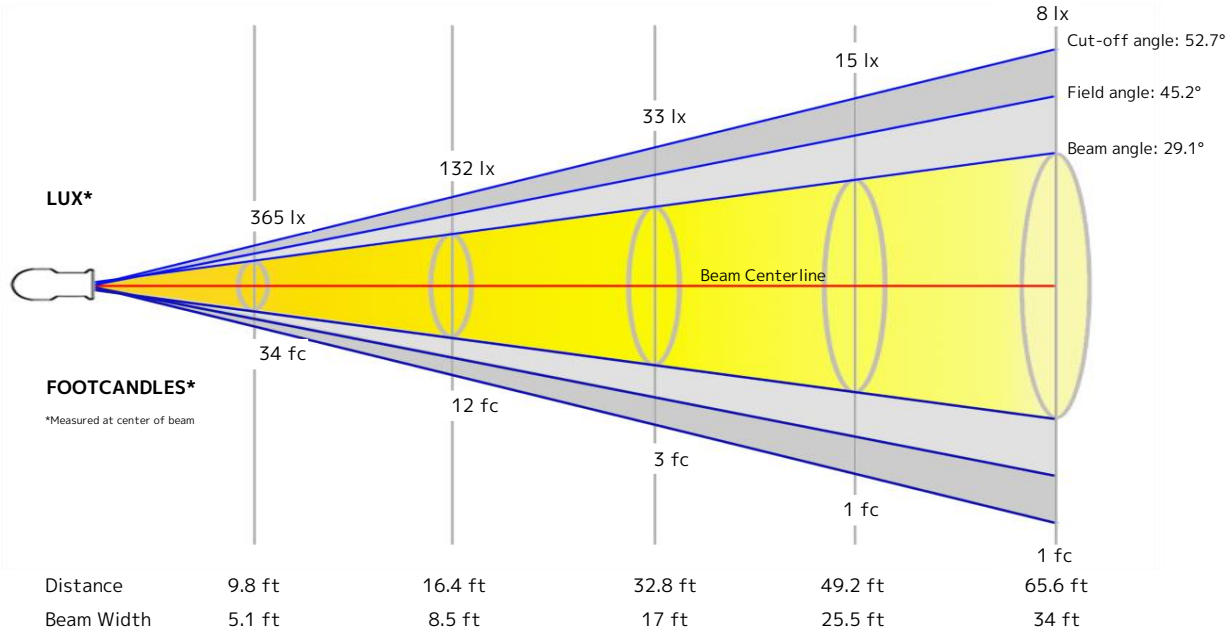
Spectral Power Distribution

Dominant Wavelength 592 nm





Dominant Wavelength	Color Coordinate CIE 1931	Color Coordinate CIE1931	Color Coordinate CIE 1964	Color Coordinate CIE 1964
nm	x	y	u	v
592	0.546	0.403	0.324	0.358



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	3289	822	365	206	132	91	67	51	41	33	27	23	19	17	15	13	11	10	9	8
FC	305.5	76.4	33.9	19.1	12.2	8.5	6.2	4.8	3.8	3.1	2.5	2.1	1.8	1.6	1.4	1.2	1.1	0.9	0.8	0.8

Measurement Date: 9/12/2024