

Photometric Data Sheet

Laboratory and Equipment

Test Lab
Spectrometer Manufacturer and Model
Measurement Date

Super Bright LEDs - St. Louis, Missouri
LabSpion – Type C, horizontal
2/20/2026

Measurement Conditions

Tested c-planes
Tested Gamma Resolution
Input Power

16 planes – 22.5°
3.75°
72.5 W

Tested Light Source

Luminaire
Basic Luminous Shape
Manufacturer
Description

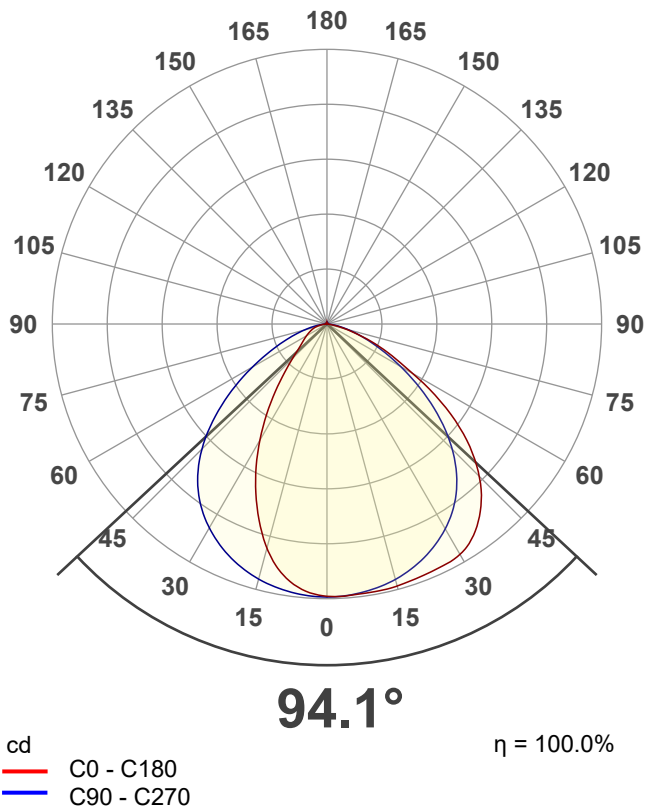
WPA-SW3B80W-H8DBR35 4000K
PANEL
Super Bright LEDs

Main Light Measurement Results

Output – Total Lumen (Up% / Down%)
Efficiency
Peak Intensity
Correlated Color Temperature, CCT
Color Rendering Index
TM30
SDCM

12457 lm – 0.61% / 99.39%
172 lm/W
5530 cd
3937 K
CRI 74.0
75.7
1.7

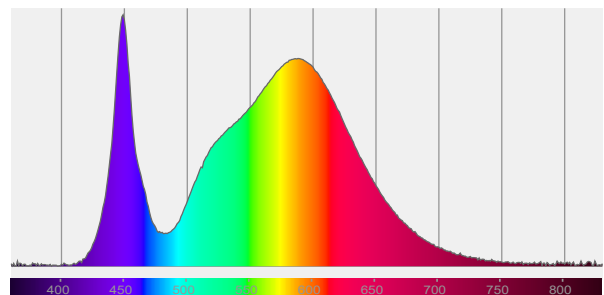
Polar Light Distribution Diagram



Product Photo



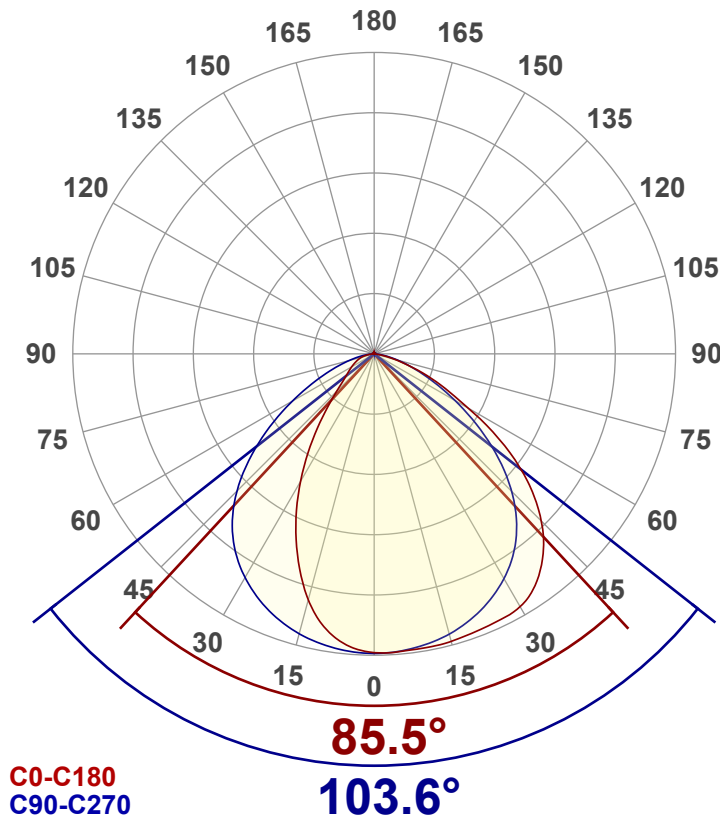
Spectral Power Distribution



Photometric Data Sheet

Luminous Intensity Diagram

Unit: 0-100% of peak intensity



Main Values

Output (total Lumen)	12457 lm
Lumen Up% / Down%	0.61% / 99.39%
Peak Intensity	5530 cd
Beam Angle (50%-FWHM)	94.10°
Beam Angle - Horizontal	103.6°
Beam Angle - Vertical	85.5°

Cut-off Angle

Average 2.5%	162.1°
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Field Angle

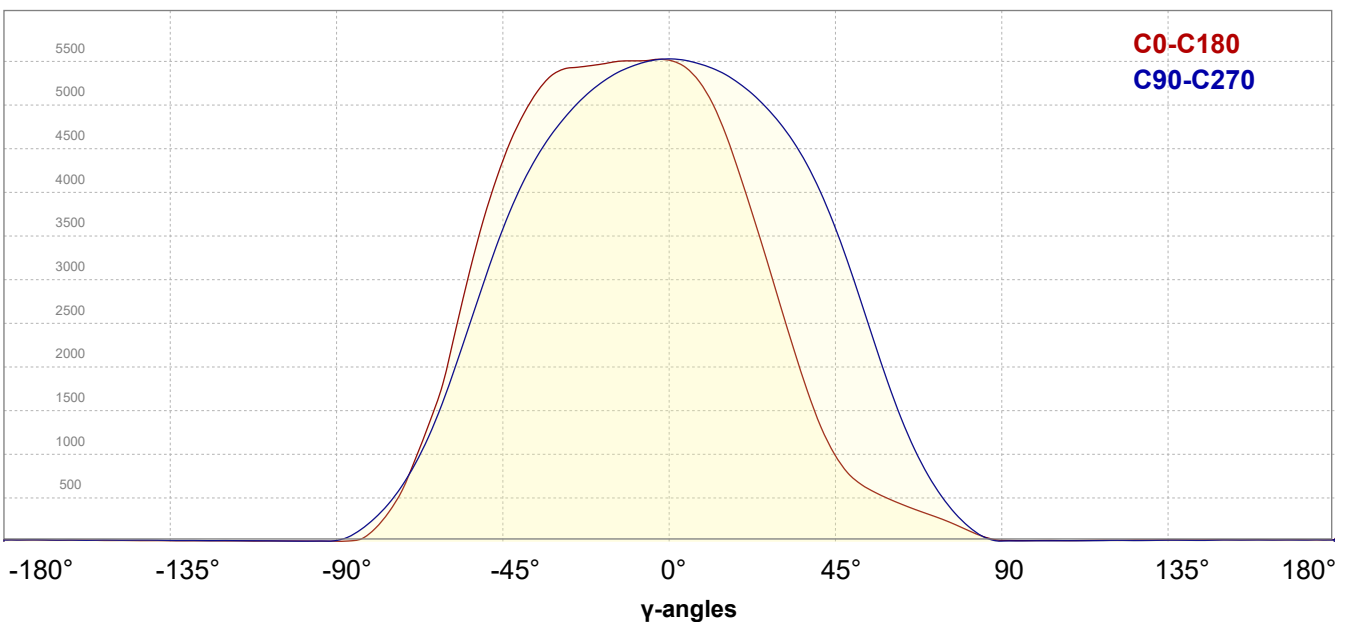
Average 10%	137.1°
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Intensity Ratio

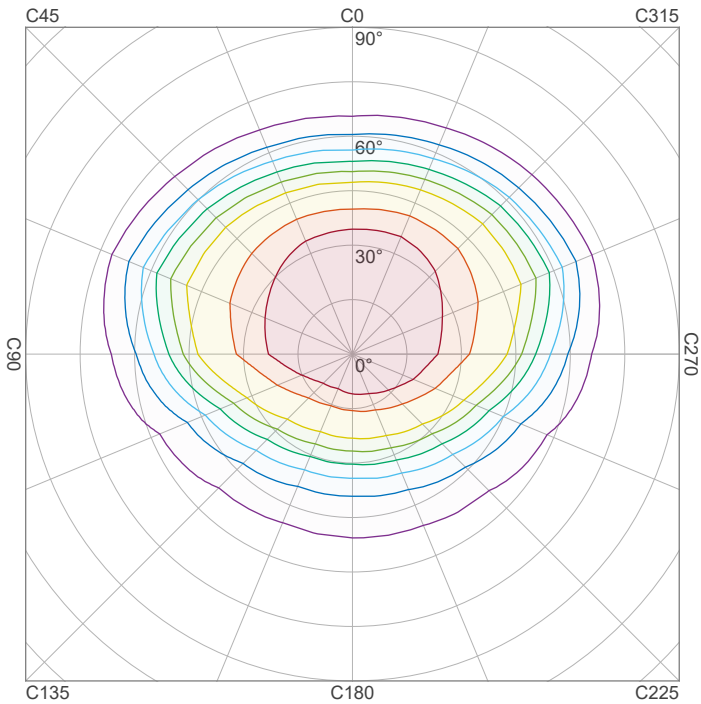
In 120° cone	85.6%
In 90° cone	62.0%

Linear Distribution Diagram

Intensity [cd]



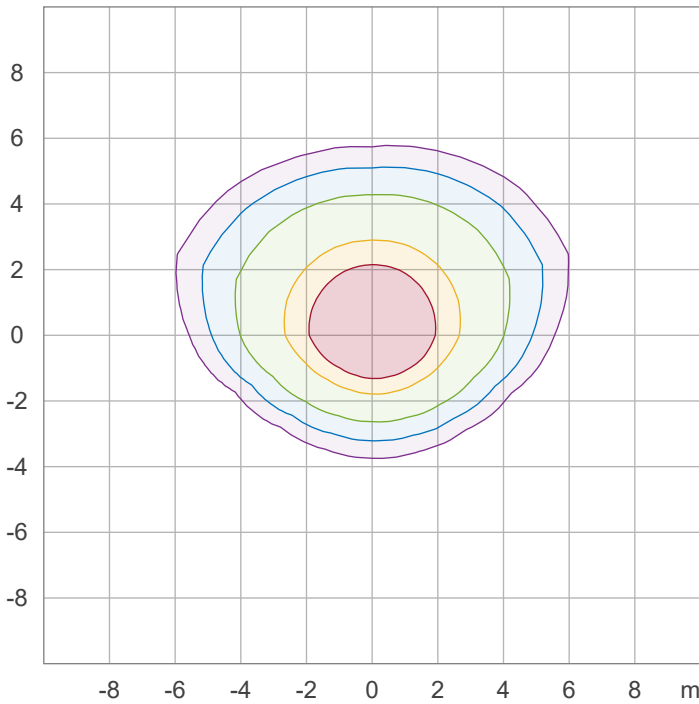
Iso-intensity Diagram (Iso-candela)



90 %	4976.6 cd
80 %	4423.6 cd
70 %	3870.7 cd
60 %	3317.7 cd
50 %	2764.8 cd
40 %	2211.8 cd
30 %	1658.9 cd
20 %	1105.9 cd
10 %	553.0 cd

Peak intensity: 5529.5 cd
 Number of c-planes: 16

Iso-illuminance Diagram (Iso-lux)



50.0 %	307.0 lx
30.0 %	184.2 lx
10.0 %	61.4 lx
5.0 %	30.7 lx
3.0 %	18.4 lx

Peak illuminance: 614.0 lx
 Mounting height: 3.0 m
 Number of c-planes: 16

Photometric Data Sheet

Color Details

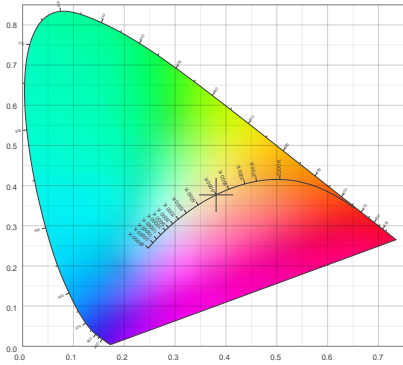
Correlated Color Temperature, Measured
 Color Rendering Index
 Color Rendering Index, R9 (red)
 Color Rendering TM30-18

CCT = 3937 K
 CRI 74.0
 R9 = -28.4
 Rf 75.7
 Rg 94.6

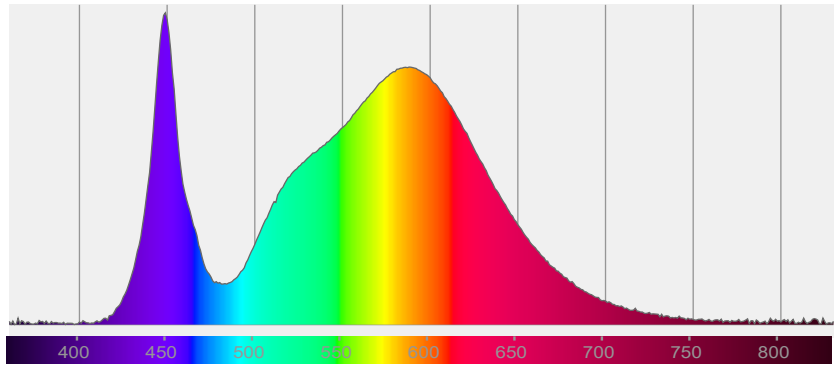
Color deviation from BBL
 Color coordinates CIE 1931
 Color coordinate CIEs 1960
 Color coordinate CIEs 1976
 Color Quality Scale

Duv = -0.0015
 (x;y) = (0.381;0.377)
 (u;v) = (0.225;0.334)
 (u';v') = (0.225;0.502)
 CQS = 72.6

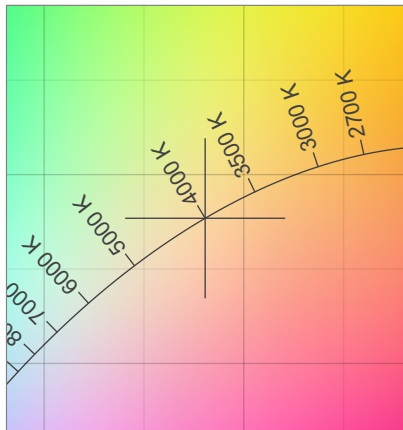
CIE 1931 Chromaticity Diagram



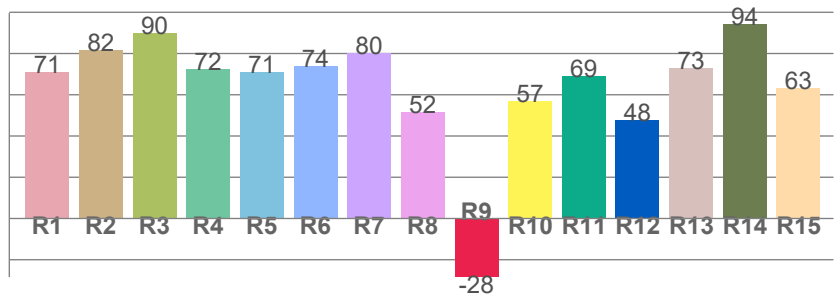
Spectral Power Distribution



CIE 1931 Chromaticity - Zoomed



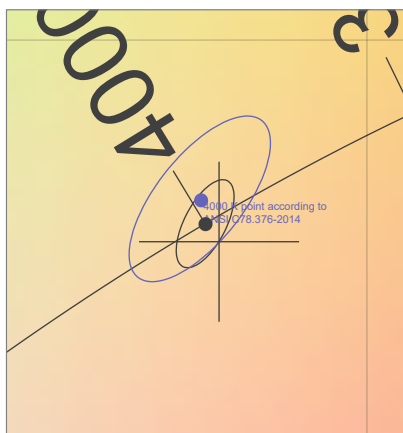
Color Rendering Index per Reference Color (CIE 1995)



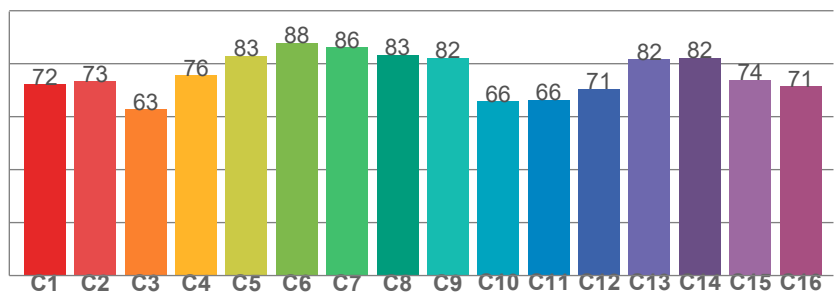
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
71.0	81.7	89.9	72.5	71.0	74.1	80.4	51.5	-28.4	56.9	69.1	48.0	73.1	94.4	63.3

CIE 1931 Chromaticity - SDCM



TM30-18 Rf-values per Hue Bin

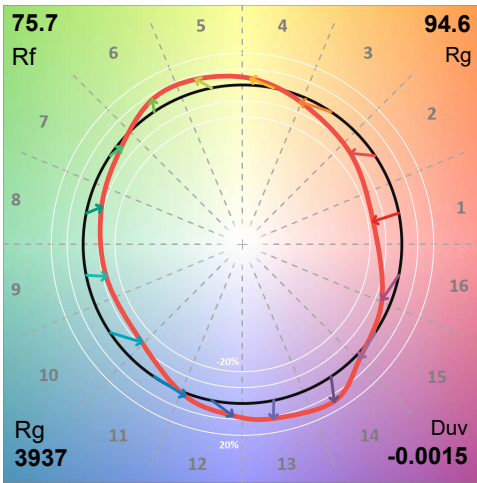


TM30-18 Rf-values per hue bin

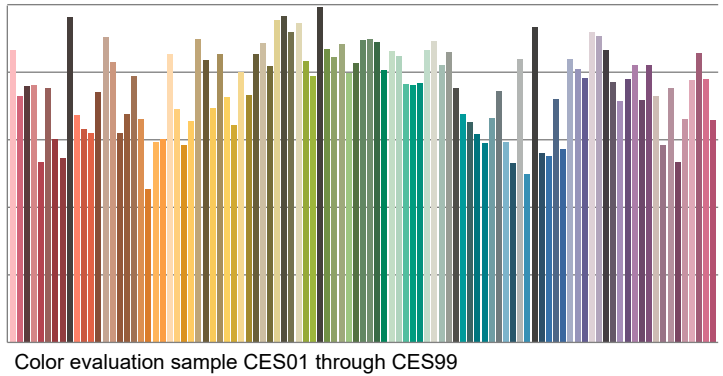
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
72.4	73.4	62.8	75.8	83.0	87.9	86.1	83.4	82.2	65.9	66.4	70.5	81.7	82.2	73.9	71.4

Color details - ANSI/IES TM-30-18 Color Rendition Report

Color Vector Graphic



Color Rendition by Color Evaluation Sample (CES)

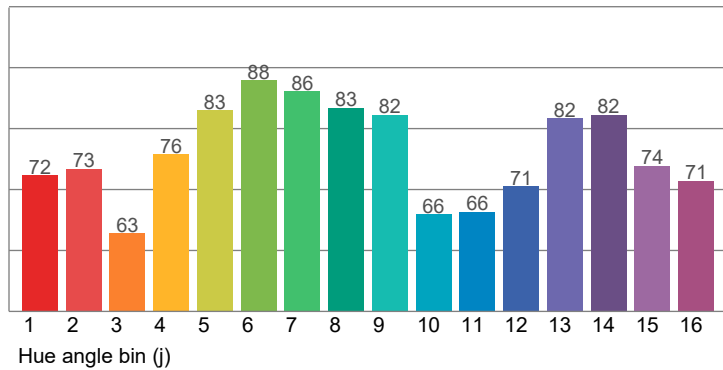


Color evaluation sample CES01 through CES99

Color Distortion Graphic

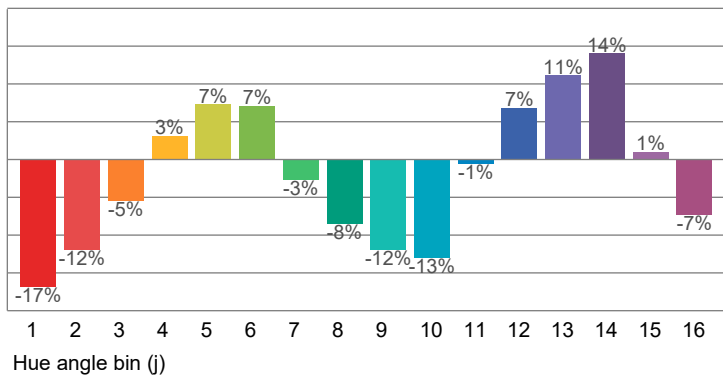


Local Color Fidelity (per hue bin)



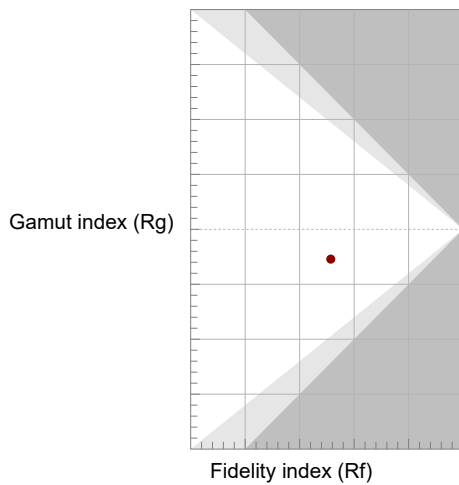
Hue angle bin (j)

Local Chroma Shift (per hue bin)



Hue angle bin (j)

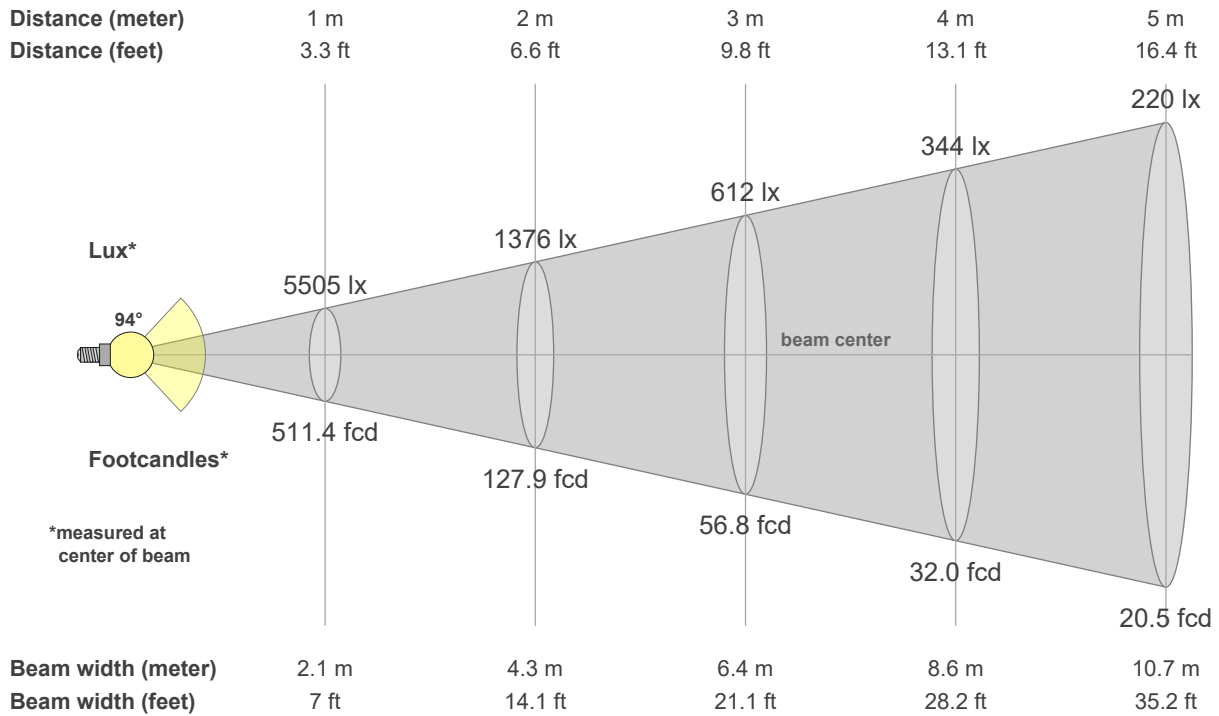
Gamut Index vs. Fidelity Index



x 0.381
y 0.381
u' 0.225
v' 0.502

CIE	13.3-1995
Ra	74.0
R9	-28.4

Beam Details



Intensity Details

Beam intensities from 1 – 20 m

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	m
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	ft
5505	1376	612	344	220	153	112	86	68	55	45	38	33	28	24	22	19	17	15	14	lux
511.4	127.9	56.8	32	20.5	14.2	10.4	8	6.3	5.1	4.2	3.6	3	2.6	2.3	2	1.8	1.6	1.4	1.3	fc



Photometric Data Sheet

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
5505	5514	5506	5492	5459	5432	5377	5187	4841	4352	3719	2913	2026	1347	812	396	135	20	5	5	cd
100%	100%	100%	100%	99%	99%	98%	94%	88%	79%	68%	53%	37%	24%	15%	7%	2%	0%	0%	0%	of 0°val

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
5505	5505	5445	5354	5211	5025	4790	4481	4085	3585	2989	2348	1728	1194	765	450	215	58	9	8	cd
100%	100%	99%	97%	95%	91%	87%	81%	74%	65%	54%	43%	31%	22%	14%	8%	4%	1%	0%	0%	of 0°val

Intensities in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
5505	5407	5139	4693	4084	3417	2716	2036	1431	986	726	581	479	393	316	237	145	58	17	11	cd
100%	98%	93%	85%	74%	62%	49%	37%	26%	18%	13%	11%	9%	7%	6%	4%	3%	1%	0%	0%	of 0°val

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
5505	5504	5444	5345	5200	5010	4762	4459	4071	3574	2987	2360	1747	1210	800	485	256	99	16	6	cd
100%	100%	99%	97%	94%	91%	87%	81%	74%	65%	54%	43%	32%	22%	15%	9%	5%	2%	0%	0%	of 0°val

IESNA TM-15-07 Luminaire Classification System for Outdoor Luminaires

IES Classification (Type I, II, III, IV, V) Type II
 Longitudinal Classification (Short, Medium, Long) Very Short
 Cutoff Classification Cutoff

Forward Light

Low (0-30°)	2239.5	lm	18%
Medium (30-60°)	4555.9	lm	36.6%
High (60-80°)	1239.3	lm	9.9%
Very High (80-90°)	57.8	lm	0.5%

Back Light

Low (0-30°)	1870.2	lm	15%
Medium (30-60°)	1998.2	lm	16%
High (60-80°)	389.7	lm	3.1%
Very High (80-90°)	32	lm	0.3%

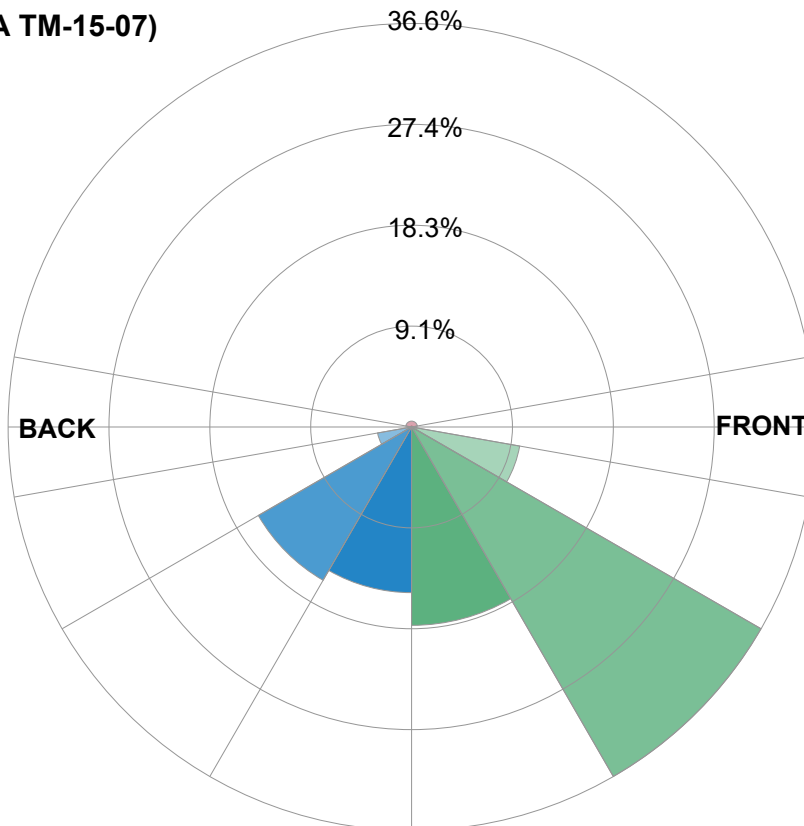
Uplight

Low (90-100°)	9.4	lm	0.1%
High (100-180°)	66.4	lm	0.5%

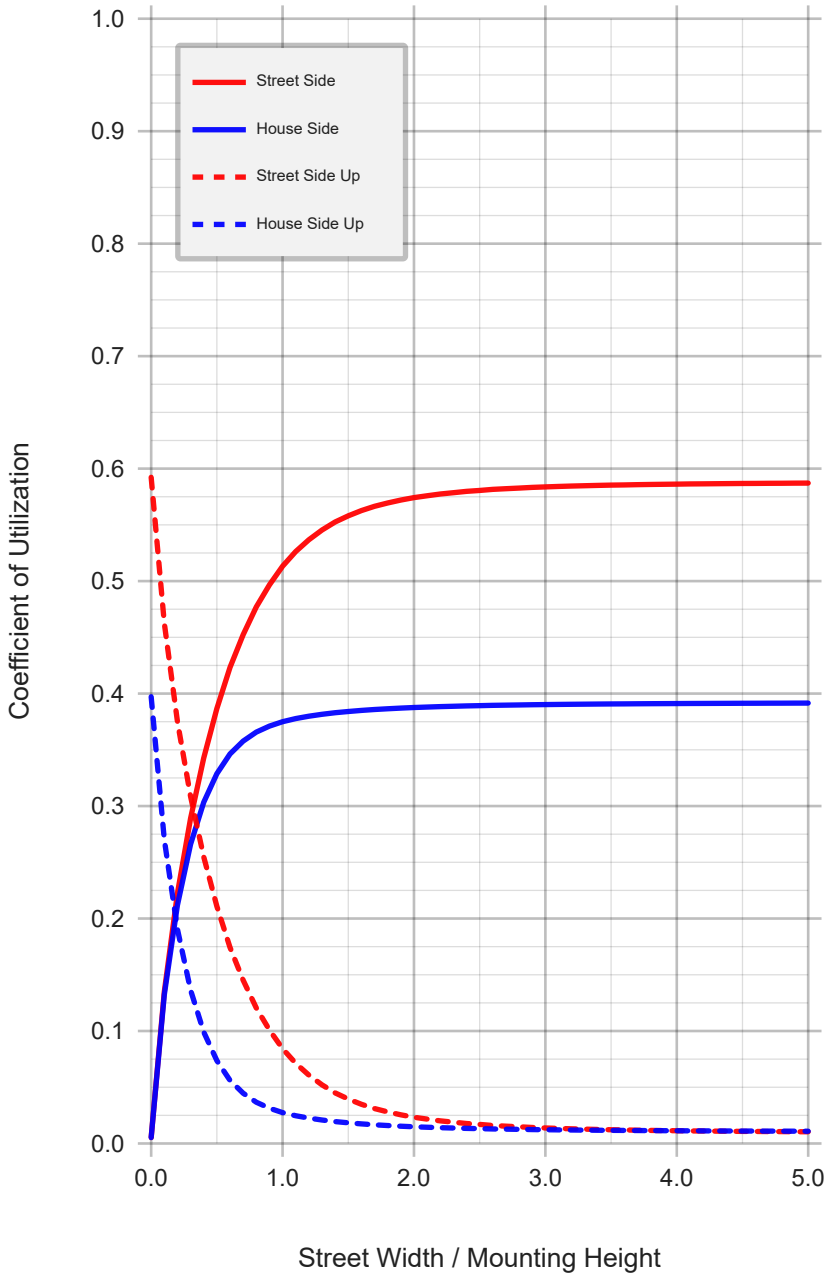
Total

Sum 12457.4 lm 100%

BUG Rating (IESNA TM-15-07)
B3 U3 G1

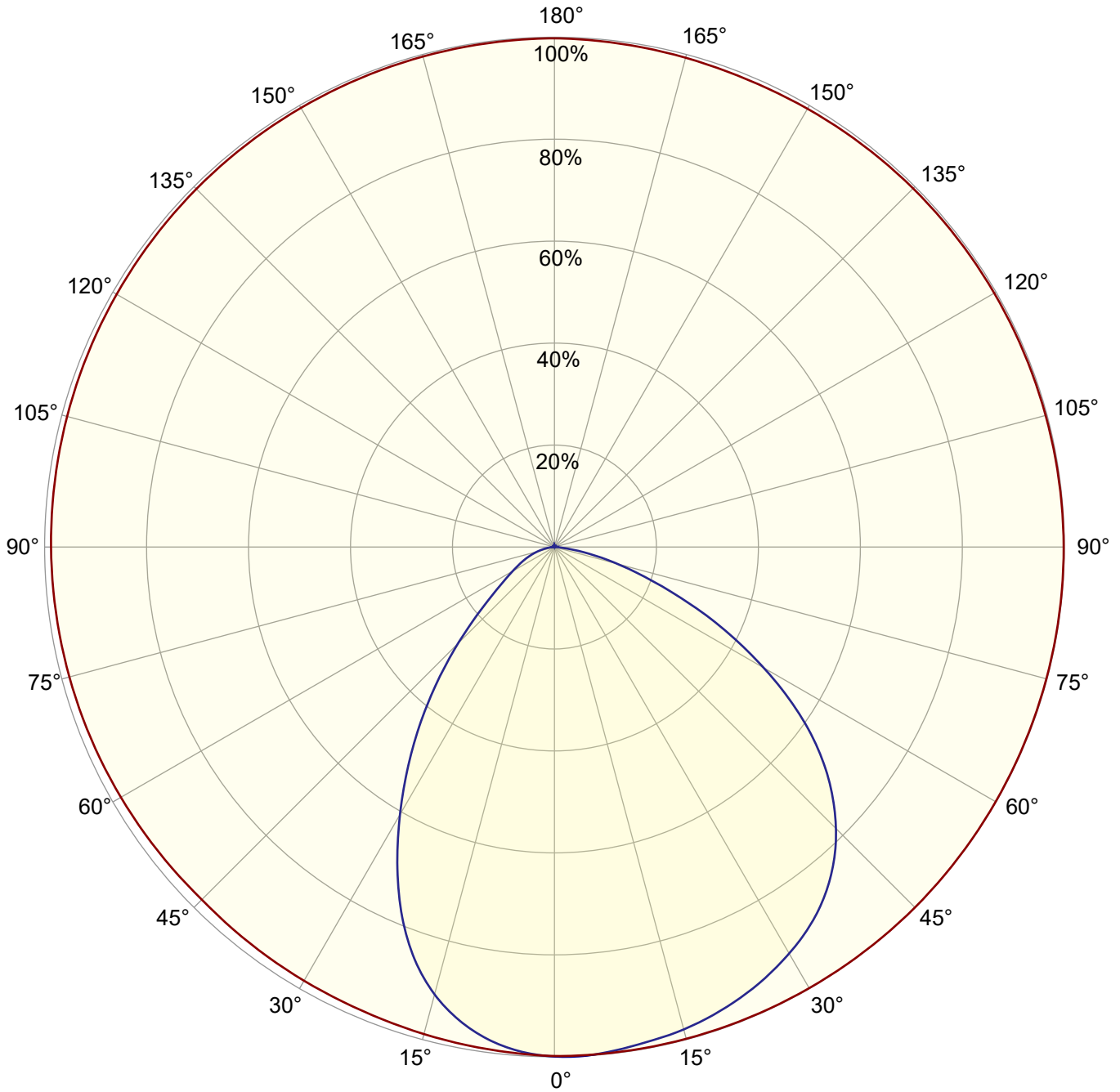


Photometric Data Sheet



	Flux	Percent of lamp
Downward Street Side	8092.45 lm	64.96%
Downward House Side	4290.10 lm	34.44%
Downward Total	12382.56 lm	99.40%
Upward Total	75.81 lm	0.61%
Total Flux	12457.44 lm	100%

Polar Graph - Peak Values



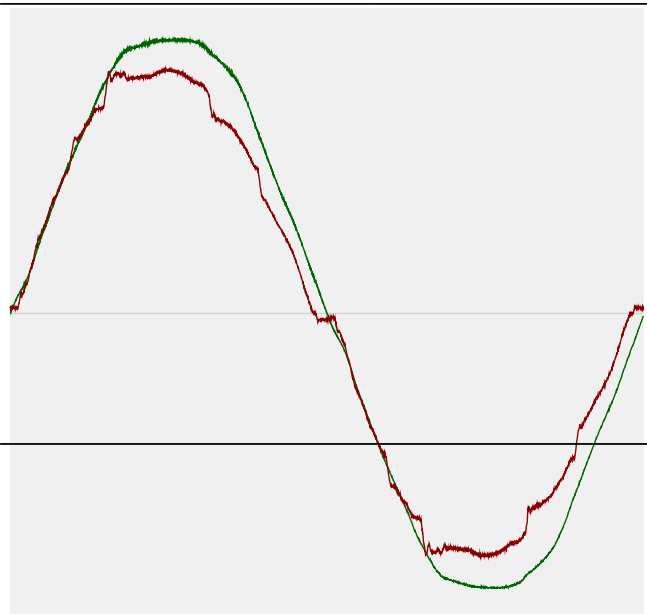
Maximum intensity	5529.9 cd
Max. located at horizontal, vertical angles	315H 4V deg.
Through max.intensity [cd]	Peak plane: C45 - C225
Horizontal cone through vertical angle	4V

Power Details

Input power

Frequency of input power	60.1 Hz
Power feed to light source	72.5 W
RMS Input voltage feed V,RMS	120 V
RMS Input current feed I,RMS	0.607 A
Volt-Amp or apparent power = V,RMS*I,RMS	72.91 VA
Displacement factor of AC power feed	1.0
Power factor of AC current feed	0.99
Total harmonic distortion of the current	6.03%
Total harmonic distortion of the voltage	2.7%

Input power curve



Efficiency

Radiated power efficiency 49.9%



Lumen efficiency 172 lm/W



Stabilization details

Warmup Conditions

Stable period	15 min
Stable change max	2.0%
Minimum time	15 min

Color Temperature Change

CCT start	3965 K
CCT end	3937 K

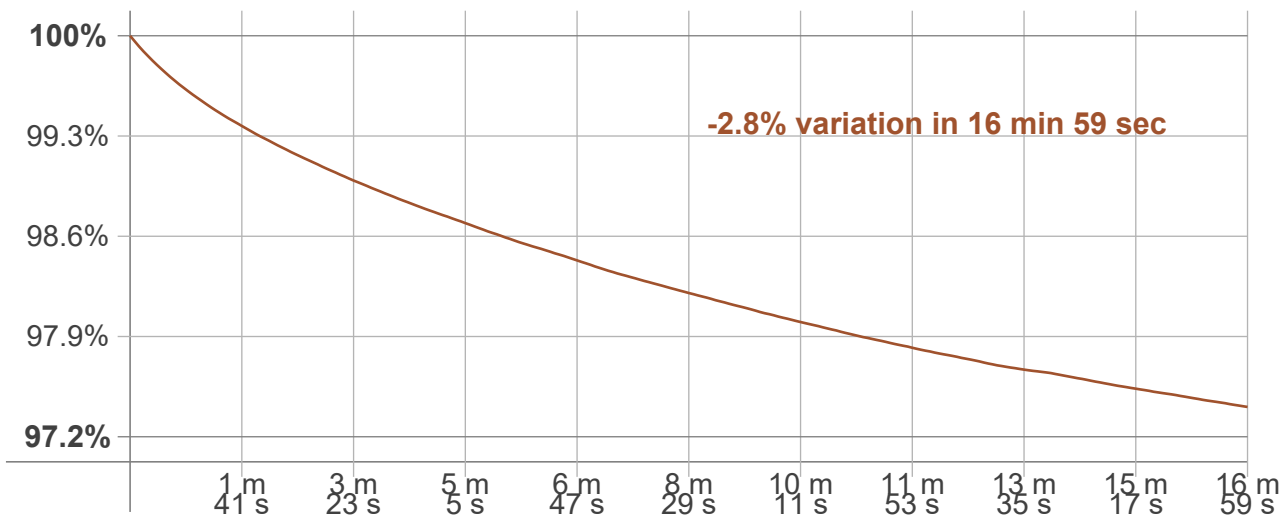
Warmup Result

Total warmup time	Lamp stabilized
Warmup variation	-2.8%

Output Change

Output start	12808 lm
Output change	-350 lm
Output end	12457 lm

Stabilization Curve



Flicker T TLA Details

Flicker Meter Type: Viso Systems LabFlicker
 Frequency of input power: 60.1 Hz
 Flicker/TLA sample rate: 20000 samples/s

Measurement time
 PstLM: 180 sec.
 All other indices: 1.5 sec.

Flicker indices according to Illuminating Engineering Society

Flicker frequency: 119.76 Hz
 Percent Flicker: 48.5 %
 Flicker index: 0.15

Flicker indices according to California Energy Commission (CEC)

JA8/10 40 Hz: 0.12 %
 JA8/10 90 Hz: 0.69 %
 JA8/10 200 Hz: 48.47 %
 JA8/10 400 Hz: 48.64 %
 JA8/10 1000 Hz: 48.53 %

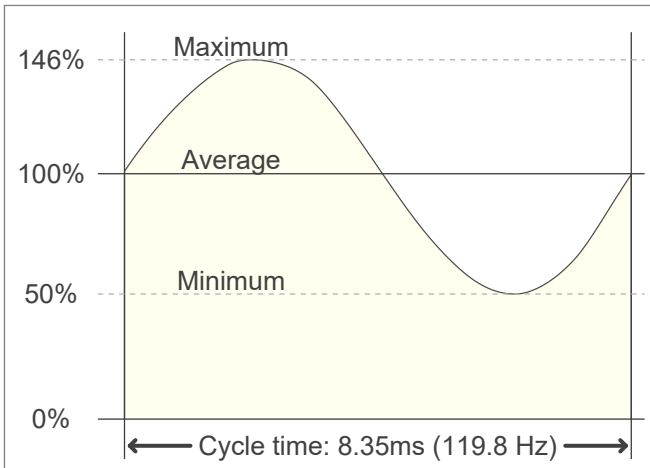
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC

PstLM value (F < 80 Hz): 0.09
 SVM value (80 < F < 2000 Hz): 1.74

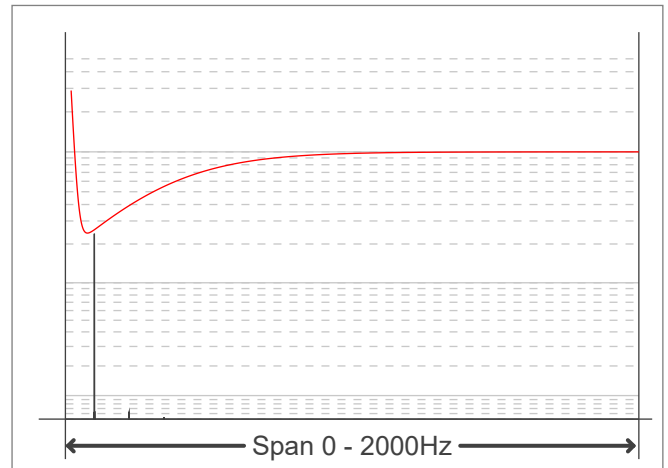
Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp: 0.06

Flicker frame (frame of one flicker period in time domain)



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation Plot

