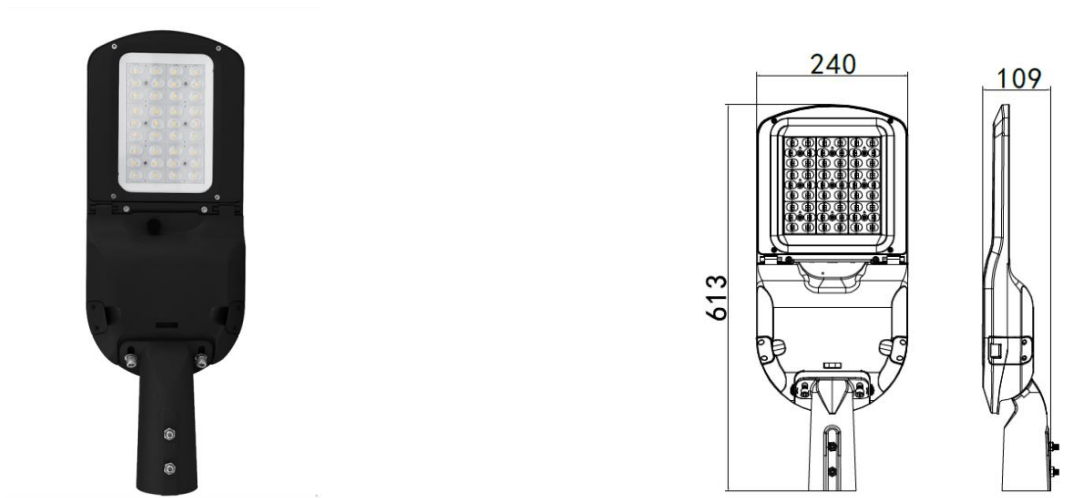




Product Overview

Product Name / Code	KINGSTON 100W Streetlight - LC6140-T2
Description	Spigot Dia 60mm, IP65, 4000K, Non-Dim, T2 Optic
Manufacturer	Decrolux Lighting Pty Ltd



Laboratory and Equipment

System Name / Model	LabSpion / Freedom VIS (Custom Viso)
Manufacturer / Serial Number	Ibsen Photonics, Denmark / 2417457569
Sensor Name	LabSensor Model2
Sensor Serial Number / Calibration Date	3430823524 / 7/12/2022

Measurement Details

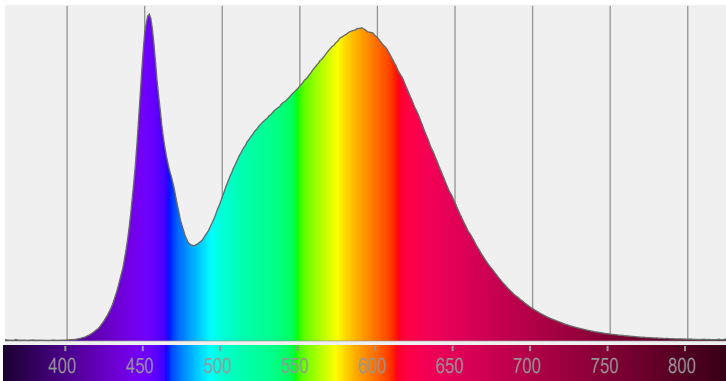
Test Date and Time	3/04/2023 2:07:56 PM
Operator	Johnny Elmer
C-Planes Measured	72
Measurement Resolution	5°
Measurement Distance	457.7cm
Measurement Number	VFR-230403-0042-MS
Tracking Link	http://www.visosystems.com/tracking/?id=VT230403-003598



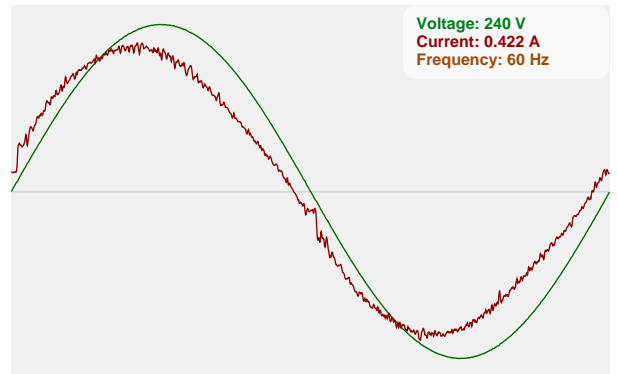
Performance

Total Lumen Output	14200 lm
Light Efficiency	144 Lumen/Watt
Peak (cd)	7754 cd
Nominal Power	98.4 W
Input Voltage	240 V
Frequency of Input Power	60 Hz
Power Factor	0.97
Warm-up (stabilisation) Time	Lamp stabilized in 1 hour 7 min
Warm-up Variation	-5.5

Spectral Power Distribution (SPD)



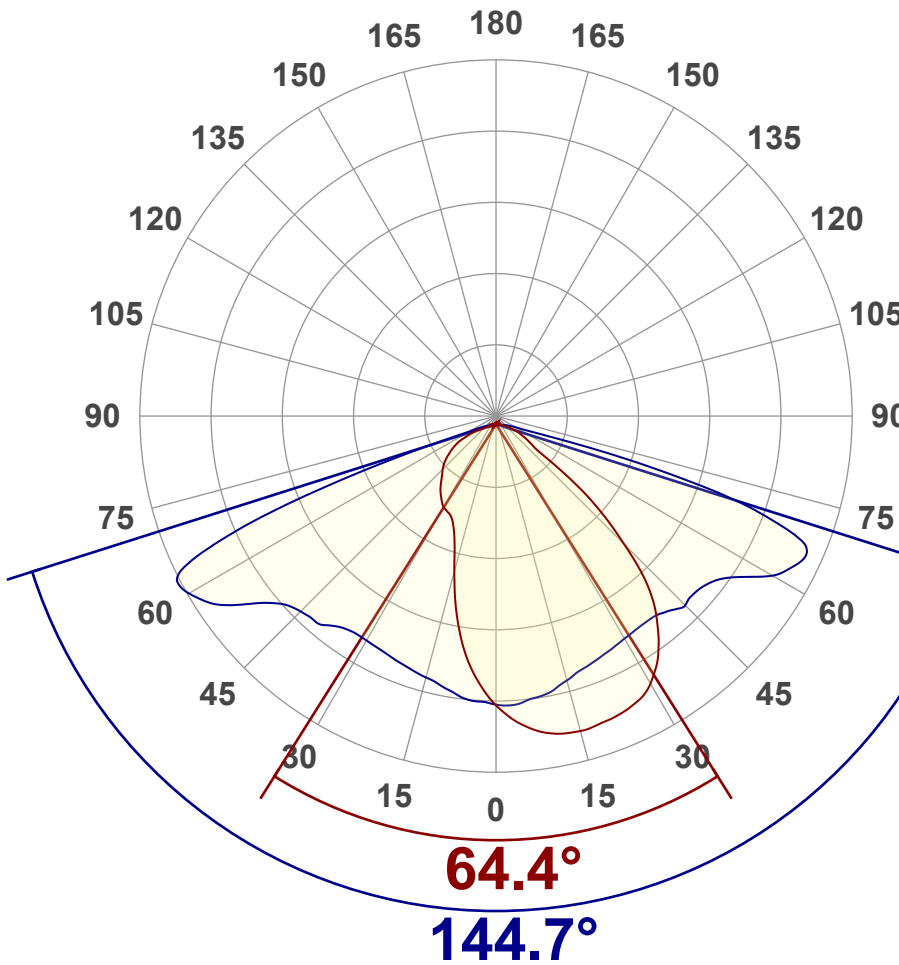
Input Power Curve



Optic Specifications

Correlated Colour Temperature, Target	4000K
Correlated Colour Temperature, Measured	4119K
Colour Rendering Index	CRI 79.3
R9 Value	R9 = -11.4
Colour Rendering TM30-18	R _f 81.7 - R _g 92.0
Colour Quality Scale	CQS = 79.4
Beam Angle	94.6°



Angular Distribution – 0° / 90° Plane

Main Values

Total Lumen Output	14200 lm
Lumen Up% / Down%	0.27 % / 99.73%
Peak Intensity	7754 cd
Beam Angle (50%)	94.6°
Beam Angle (90%)	144.7°
Beam Angle (10%)	65.3°

Cut-off Angle

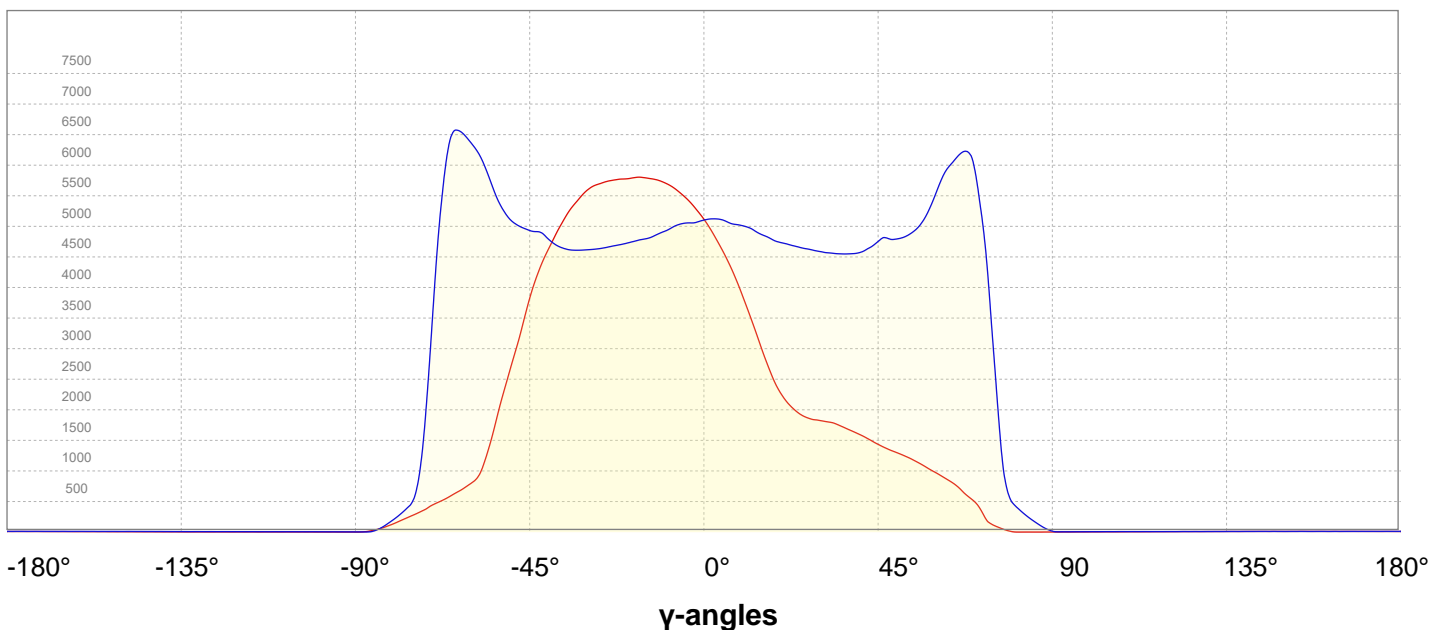
Average 2.5%	161°
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Field Angle

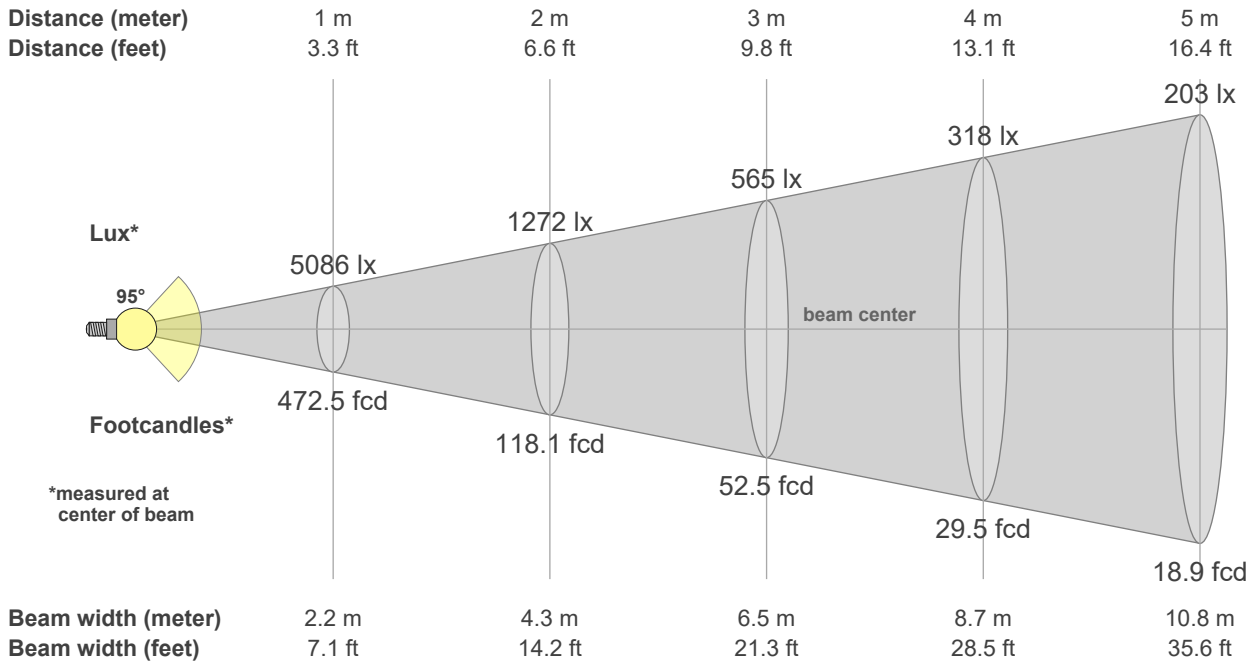
Average 10%	143.8°
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Intensity Ratio

In 120° Cone	78.5%
In 90° Cone	51.1%

C000-C180
C090-C270
Linear Distribution Diagram – Intensity (candela) vs γ -angle


Beam Details



Beam intensities from 1 – 20m

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
5086	1272	565	318	203	141	104	79	63	51	42	35	30	26	23	20	18	16	14	13	lux
472.5	118.	52.5	29.5	18.9	13.1	9.6	7.4	5.8	4.7	3.9	3.3	2.8	2.4	2.1	1.8	1.6	1.5	1.3	1.2	fc

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
5086	5484	5708	5792	5777	5735	5597	5229	4646	3819	2669	1497	804	606	445	280	140	35	1	1	cd
100%	108%	112%	114%	114%	113%	110%	103%	91%	75%	52%	29%	16%	12%	9%	5%	3%	1%	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
5086	5099	5009	4863	4732	4652	4588	4551	4568	4752	4796	4963	5552	6103	5897	2801	461	188	16	5	cd
100%	100%	98%	96%	93%	91%	90%	89%	90%	93%	94%	98%	109%	120%	116%	55%	9%	4%	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
5086	4580	3859	2981	2256	1923	1824	1744	1602	1434	1294	1148	968	770	491	107	4	1	2	2	cd
100%	90%	76%	59%	44%	38%	36%	34%	32%	28%	25%	23%	19%	15%	10%	2%	0%	0%	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
5086	5050	4923	4797	4723	4658	4617	4620	4782	4932	5111	5715	6352	6496	3597	547	212	24	3	4	cd
100%	99%	97%	94%	93%	92%	91%	91%	94%	97%	100%	112%	125%	128%	71%	11%	4%	0%	0%	0%	Of 0°val

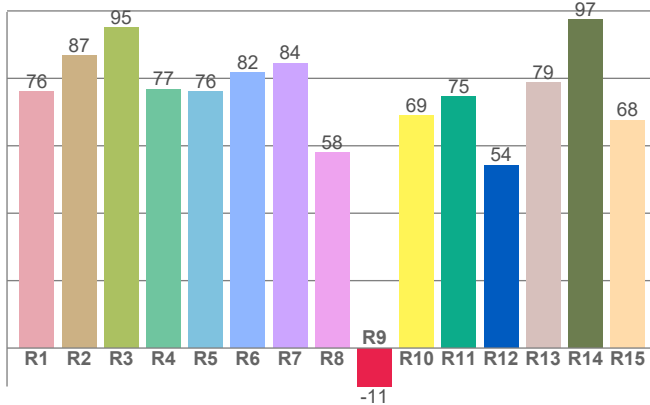


Colour Details

Correlated Colour Temperature, Target	CCT = 4000K
Correlated Colour Temperature, Measured	CCT = 4119K
Colour Rendering Index	CRI 79.3
Colour Rendering Index R9 Value	R9 = -11.4
Colour Rendering TM30-18	R _f 81.7, R _g 92.0
Colour Quality Scale	CQS = 79.4

MacAdam Steps	SDCM = 4.4
Colour Coordinates CIE 1931	(x;y) = (0.381;0.377)
Colour Coordinates CIEs 1960	(u;v) = (0.225; 0.334)
Colour Deviation from BBL	Duv = 0.0049
Colour Coordinate CIEs 1976 (CIELUV)	(u';v') = (0.225;0.225)

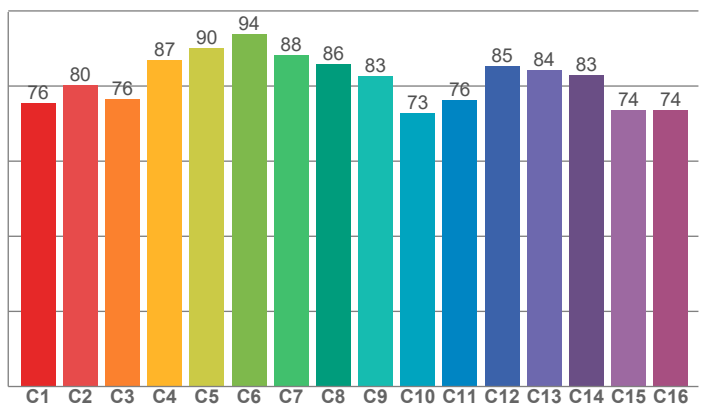
Colour Rendering Index per reference colour (CIE 1995)



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
76.1	86.7	95.0	76.8	76.0	81.8	84.5	57.9	-11.4	68.9	74.6	54.3	78.8	97.4	67.6

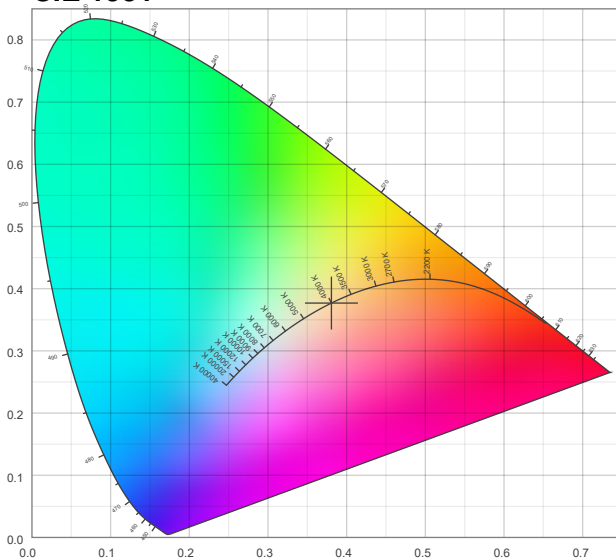
TM30-18 Rf-values per hue bin



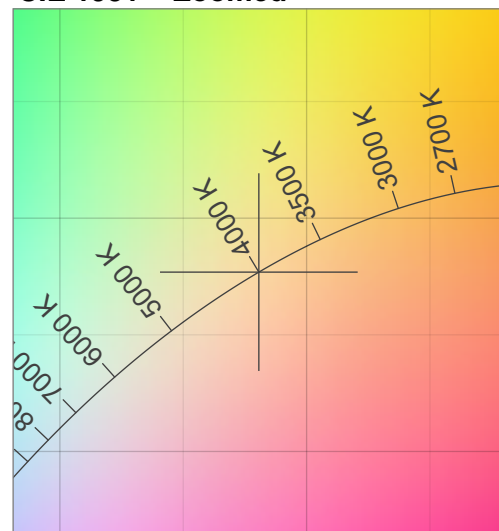
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
75.6	80.2	76.5	87.0	90.1	93.8	88.3	85.9	82.8	72.8	76.2	85.4	84.2	83.1	73.6	73.7

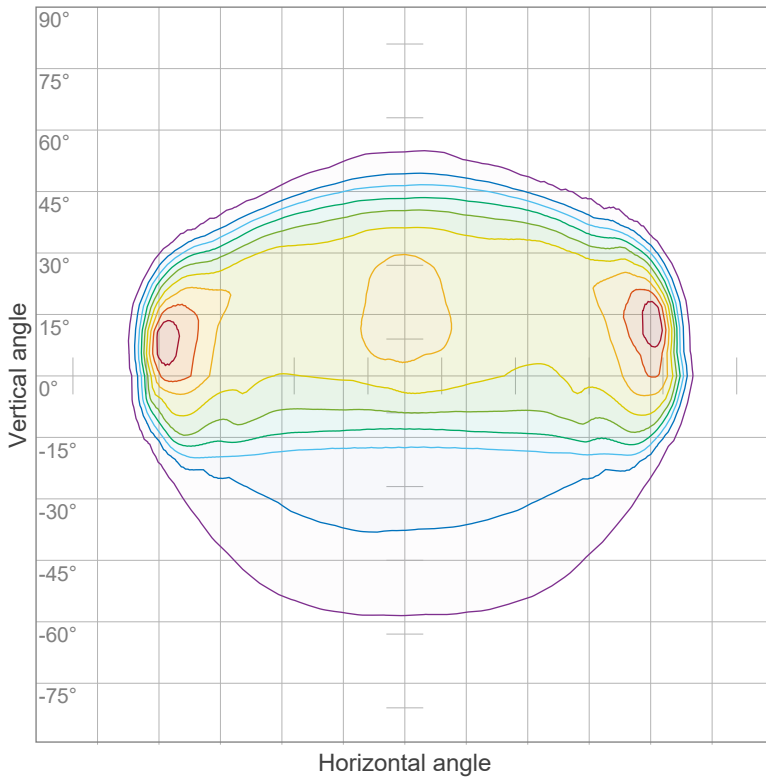
CIE 1931



CIE 1931 – Zoomed



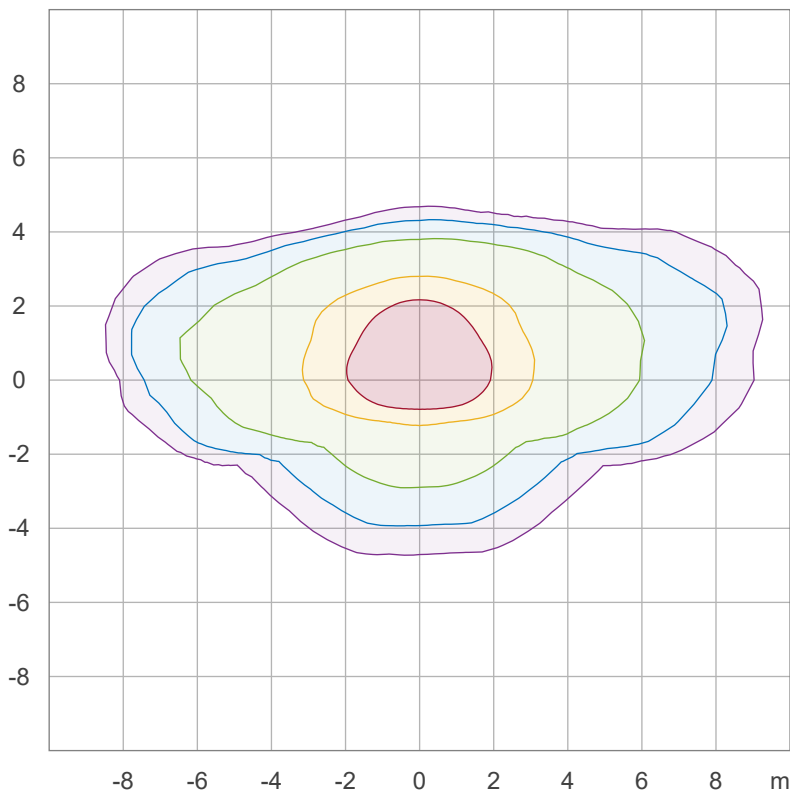
Iso-intensity Diagram (Iso-Candela)



90 %	6940.8 cd
80 %	6169.6 cd
70 %	5398.4 cd
60 %	4627.2 cd
50 %	3856.0 cd
40 %	3084.8 cd
30 %	2313.6 cd
20 %	1542.4 cd
10 %	771.2 cd

Peak intensity: 7712.0 cd
Number of c-planes: 72

Iso-illuminance Diagram (Iso-lux)



50.0 %	304.2 lx
30.0 %	182.5 lx
10.0 %	60.8 lx
5.0 %	30.4 lx
3.0 %	18.3 lx

Peak illuminance: 608.3 lx
Mounting height: 3.0 m
Number of c-planes: 72



Light Planning – UGR table

Uncorrected, comprehensive UGR table according to 117-1995

Reflectances		70	70	50	50	30	70	70	50	50	30
ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size		Viewed Crosswise					Viewed Endwise				
H = mounting height above eye level		(Viewing direction orthogonal to lamp length axis)					(Viewing direction parallel to lamp length axis)				
X	Y	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Variations with the observer position for the luminaire spacings, S:

n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a

UGR data could not be calculated due to missing dimensions. Goto Edit->Photometric->Dimensions and set the fixture/lamp dimensions.

Coefficients of Utilization

Ceiling reflectance	80	70	50	30	10	0												
Wall reflectance	70 50 30	10 70 50	30 10 50	30 10 50	30 10 50	30 10 0												
Floor reflectance	20 20 20	20 20 20	20 20 20	20 20 20	20 20 20	20 20 0												
RCR	(RCR: Room Cavity Ratio)																	
	Room Values are expressed as percentage of Lumen delivered to the task surface																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	75	82	78	74	79	75	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	50	41	35	62	50	41	35	48	40	35	46	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	31	29
9	56	42	34	28	54	41	33	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23

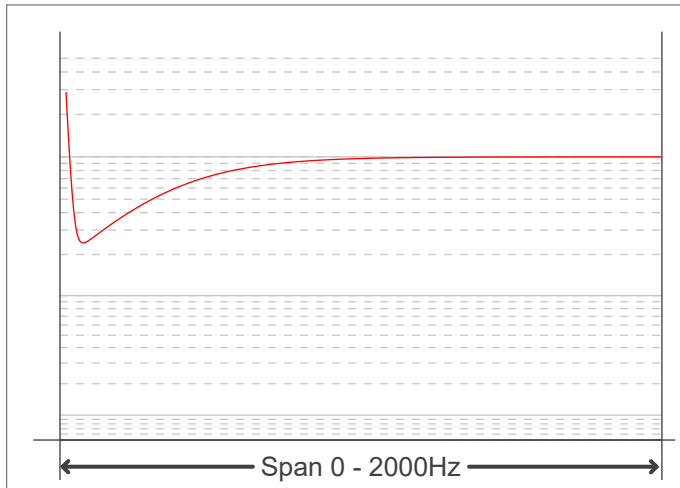


Flicker Details

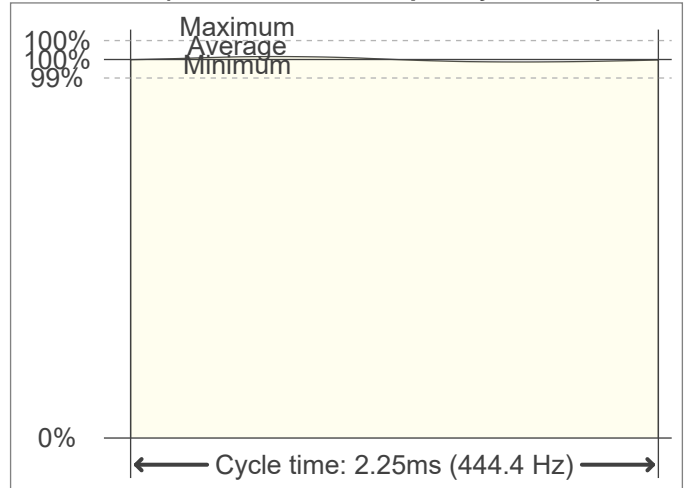
Flicker Meter Type	Viso Systems LabFlicker
Frequency of Input Power	60 Hz
Flicker/TLA Sample Rate	20000 sample/s
Measurement Time	
PstLM	180 sec
All other indices	1.2 sec

Flicker Indices (IES)	
Flicker Percentage	0.89%
Flicker Frequency	444.44 Hz
Flicker Index	0
Flicker SVM Value	0.01
Flicker PstLM Value	0.01

Flicker Frame



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/Modulation Plot

