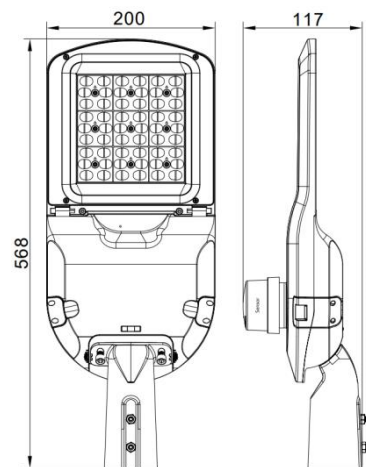




Product Overview

Product Name / Code	KINGSTON 50W Streetlight - LC6116-T4-PE
Description	Spigot Dia 60mm, IP65, 4000K, T4 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

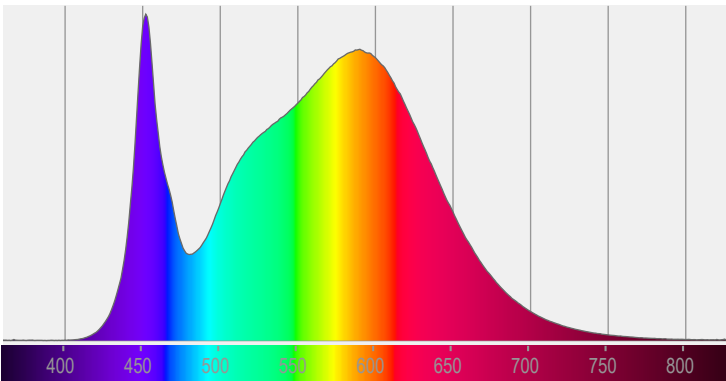
Test Date and Time	6/04/2023 1:33:55 PM
Operator	Johnny Elmer
C-Planes Measured	72
Measurement Resolution	5°
Measurement Distance	457.7cm
Measurement Number	VFR-230406-0048-MS
Tracking Link	http://www.visosystems.com/tracking/?id=VT230413-005553



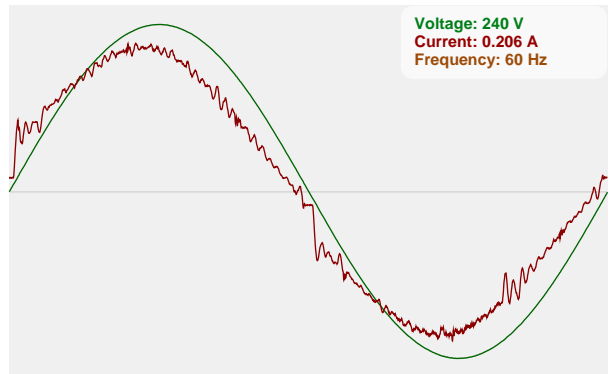
Performance

Total Lumen Output	7691 lm
Light Efficiency	159 Lumen/Watt
Peak (cd)	3837 cd
Nominal Power	48.4 W
Input Voltage	240 V
Frequency of Input Power	60 Hz
Power Factor	0.98
Warm-up (stabilisation) Time	Lamp stabilized in 34 min 17 sec
Warm-up Variation	-0.8

Spectral Power Distribution (SPD)



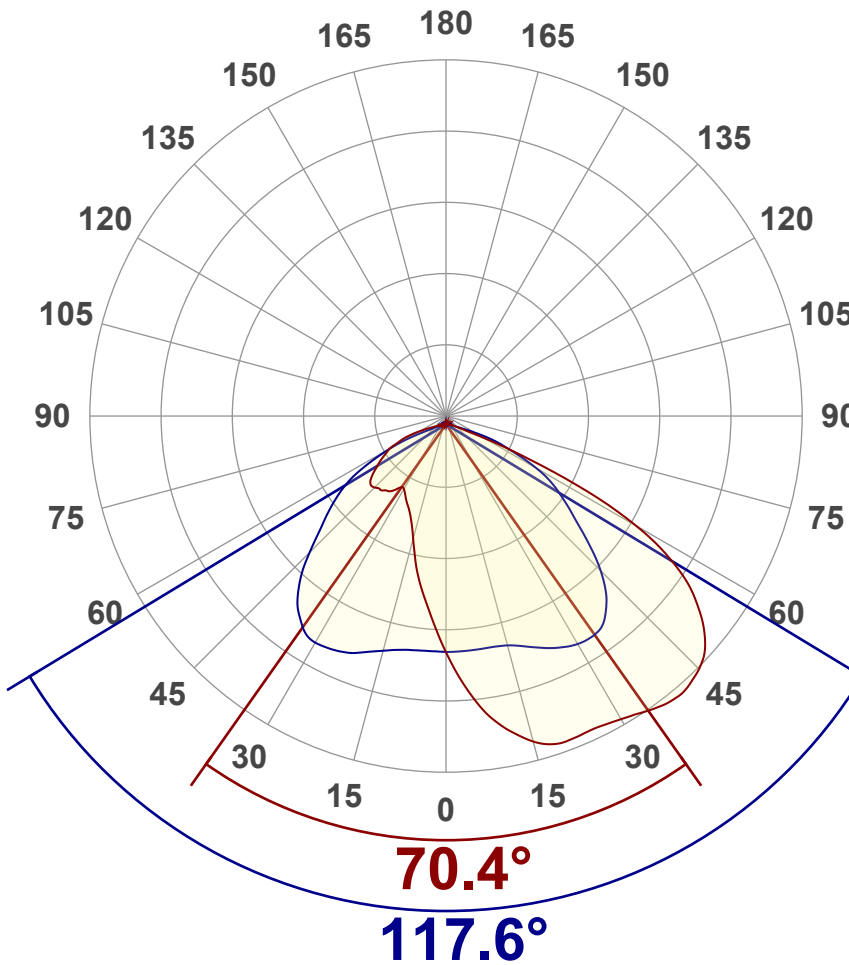
Input Power Curve



Optic Specifications

Correlated Colour Temperature, Target	4000K
Correlated Colour Temperature, Measured	4135K
Colour Rendering Index	CRI 79.6
R9 Value	R9 = -10.4
Colour Rendering TM30-18	R _f 81.8 - R _g 92.3
Colour Quality Scale	CQS = 79.7
Beam Angle	83.4°



Angular Distribution – 0° / 90° Plane

Main Values

Total Lumen Output	7691 lm
Lumen Up% / Down%	0.21 % / 99.79%
Peak Intensity	3837 cd
Beam Angle (50%)	83.4°
Beam Angle (90%)	117.6°
Beam Angle (10%)	71.1°

Cut-off Angle

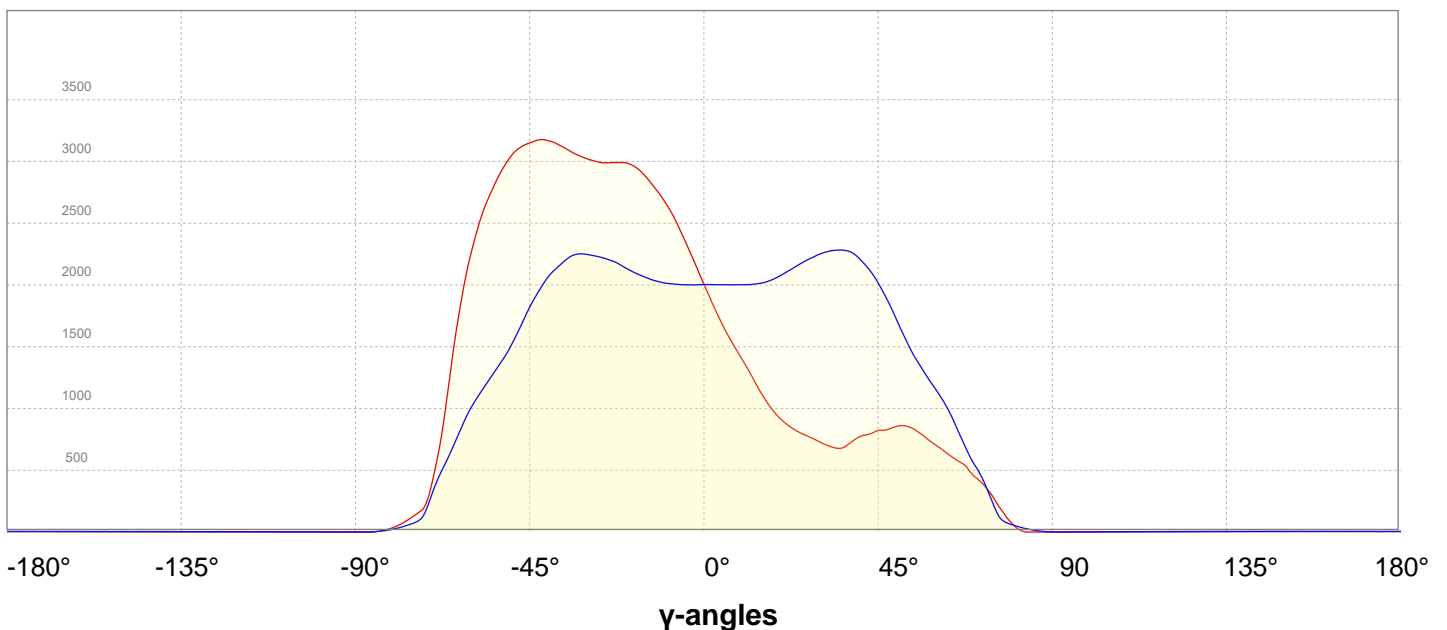
Average 2.5%	158.2°
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Field Angle

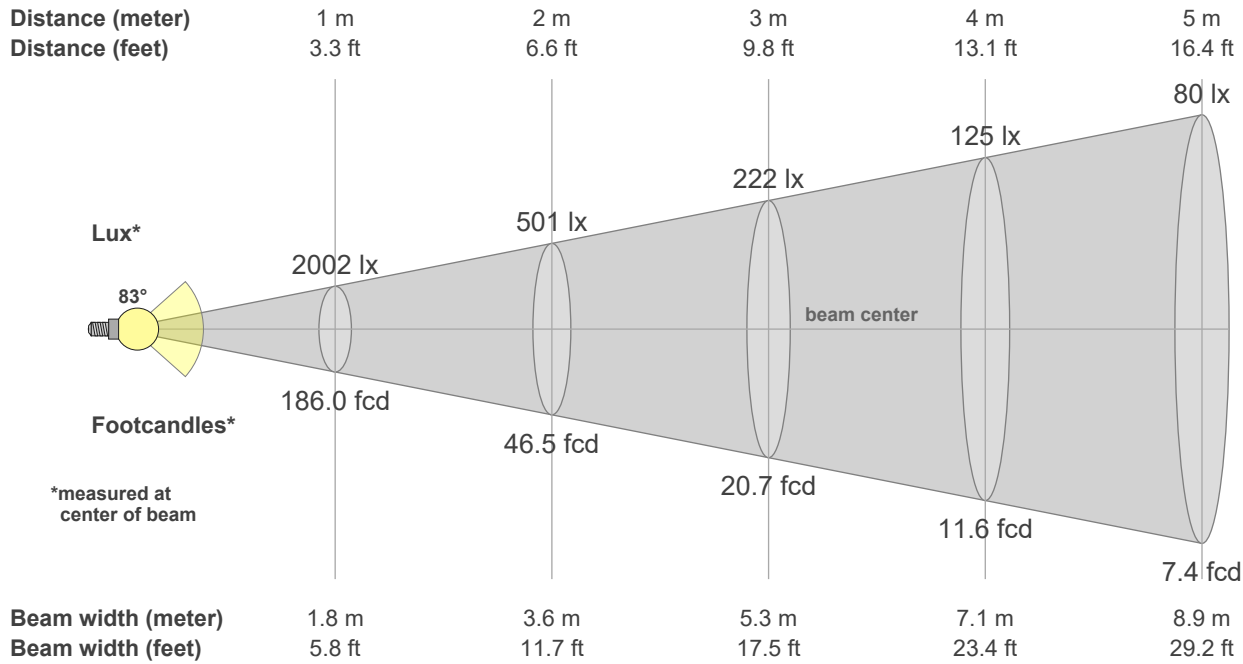
Average 10%	146.8°
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Intensity Ratio

In 120° Cone	78.4%
In 90° Cone	47.9%

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
2002	501	222	125	80	56	41	31	25	20	17	14	12	10	9	8	7	6	6	5	lux
186	46.5	20.7	11.6	7.4	5.2	3.8	2.9	2.3	1.9	1.5	1.3	1.1	0.9	0.8	0.7	0.6	0.6	0.5	0.5	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
2002	2365	2668	2875	2986	2988	3019	3091	3165	3149	3034	2748	2272	1401	431	129	40	3	0	1	cd
100%	118%	133%	144%	149%	149%	151%	154%	158%	157%	152%	137%	113%	70%	22%	6%	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
2002	2002	2002	2016	2080	2173	2250	2282	2217	2016	1702	1389	1149	864	540	206	55	16	1	1	cd
100%	100%	100%	101%	104%	109%	112%	114%	111%	101%	85%	69%	57%	43%	27%	10%	3%	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
2002	1665	1391	1115	911	802	728	678	767	821	856	817	702	589	448	267	56	1	1	2	cd
100%	83%	69%	56%	45%	40%	36%	34%	38%	41%	43%	41%	35%	29%	22%	13%	3%	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
2002	2001	2015	2061	2134	2208	2246	2218	2073	1819	1498	1254	1014	676	327	73	26	3	1	1	cd
100%	100%	101%	103%	107%	110%	112%	111%	104%	91%	75%	63%	51%	34%	16%	4%	1%	0%	0%	0%	Of 0°val

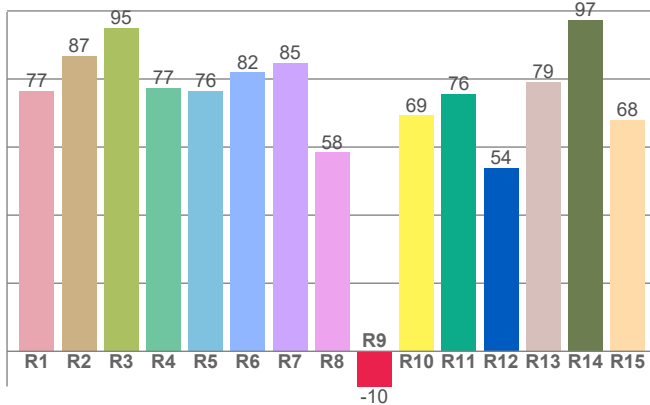


Colour Details

Correlated Colour Temperature, Target	CCT = 4000K
Correlated Colour Temperature, Measured	CCT = 4135K
Colour Rendering Index	CRI 79.6
Colour Rendering Index R9 Value	R9 = -10.4
Colour Rendering TM30-18	R _f 81.8, R _g 92.3
Colour Quality Scale	CQS = 79.7

MacAdam Steps	SDCM = 4.6
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)

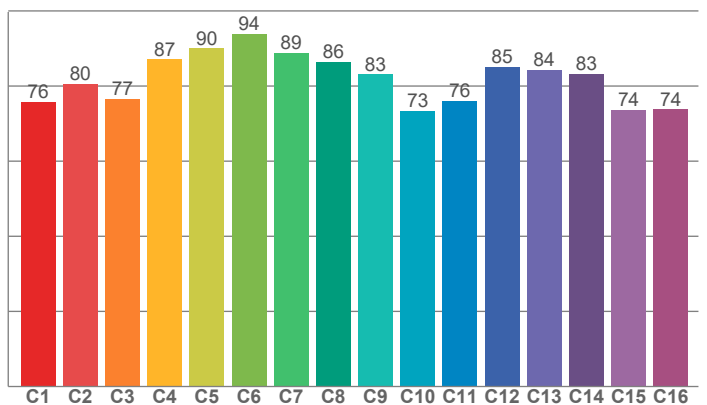
Colour Rendering Index per reference colour (CIE 1995)



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
76.5	86.8	94.9	77.4	76.4	81.9	84.7	58.4	-10.4	69.2	75.5	53.8	79.1	97.4	68.0

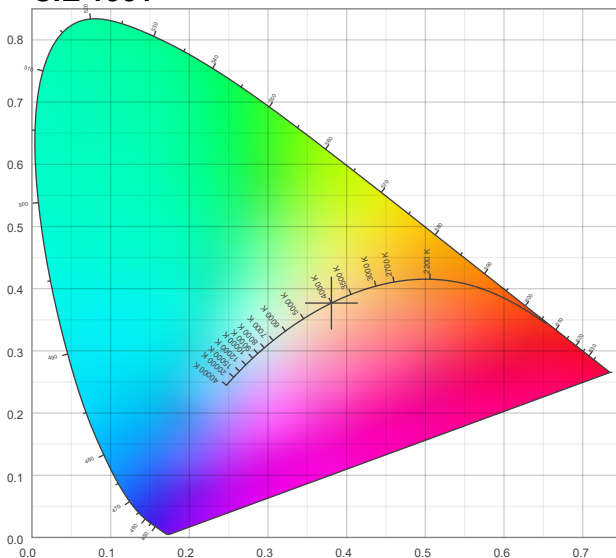
TM30-18 Rf-values per hue bin



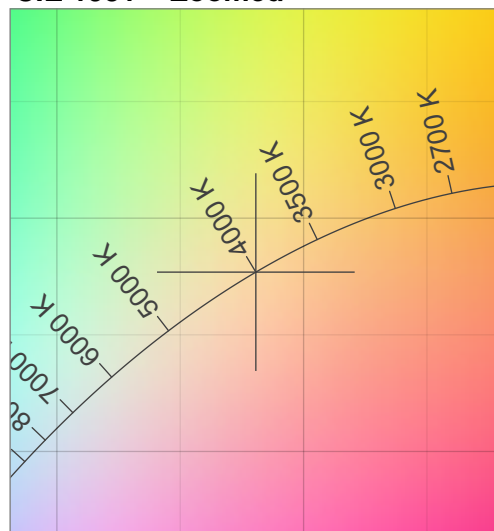
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
75.9	80.5	76.6	87.1	90.0	93.9	88.7	86.3	83.1	73.3	76.1	85.2	84.2	83.2	73.6	73.8

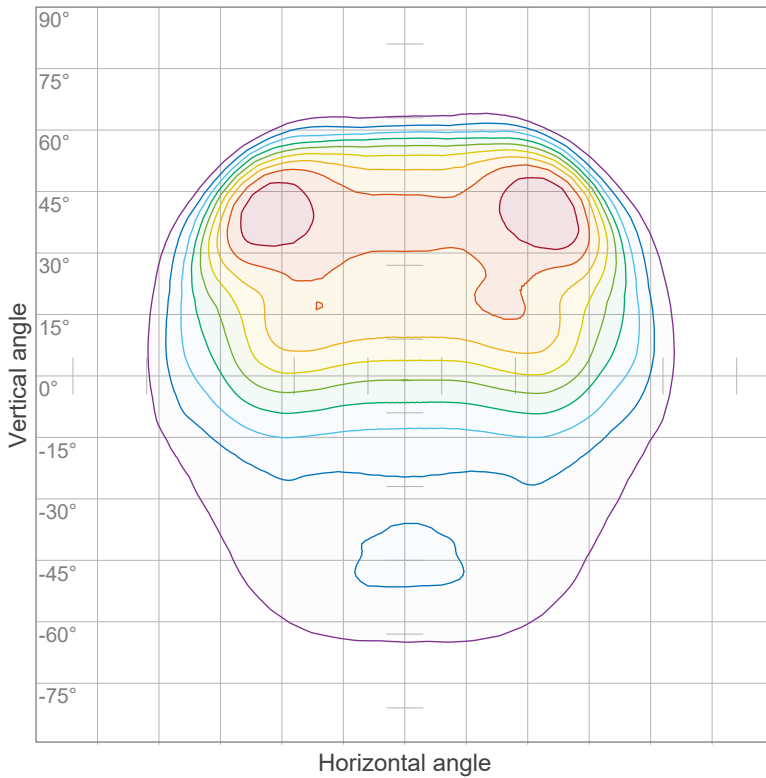
CIE 1931



CIE 1931 – Zoomed



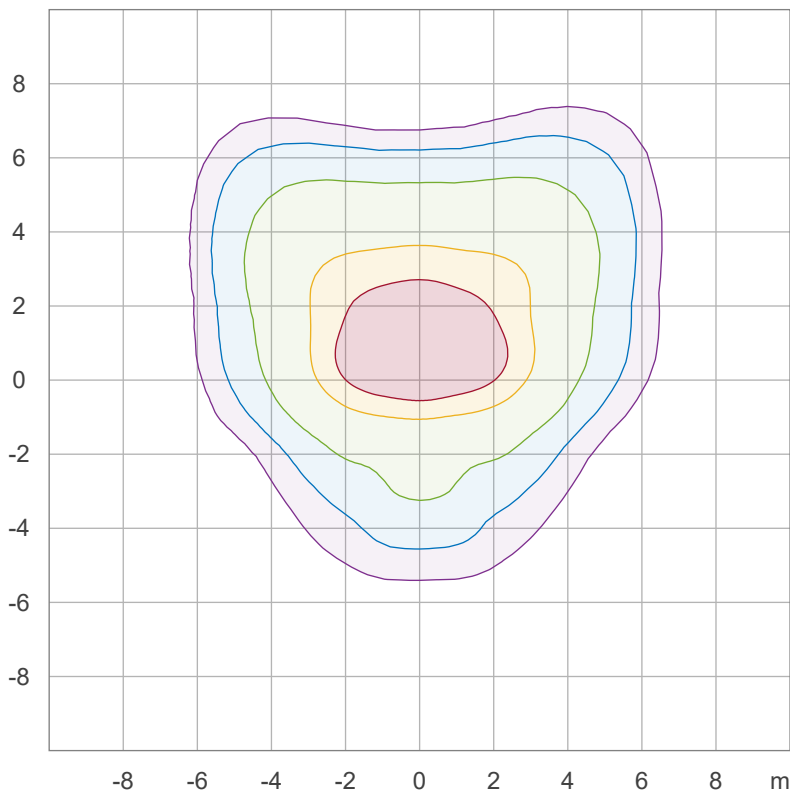
Iso-intensity Diagram (Iso-Candela)



90 %	3452.6 cd
80 %	3069.0 cd
70 %	2685.4 cd
60 %	2301.8 cd
50 %	1918.1 cd
40 %	1534.5 cd
30 %	1150.9 cd
20 %	767.3 cd
10 %	383.6 cd

Peak intensity: 3836.3 cd
Number of c-planes: 72

Iso-illuminance Diagram (Iso-lux)



50.0 %	144.0 lx
30.0 %	86.4 lx
10.0 %	28.8 lx
5.0 %	14.4 lx
3.0 %	8.6 lx

Peak illuminance: 288.1 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
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

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	96 106 102	98 95 98	95 92 94	91 89 90	88 86 84
2	99 90 83	78 96 88	82 77 85	79 75 81	77 73 78	75 71 69
3	89 78 70	63 87 77	69 63 74	67 62 71	65 60 68	64 59 57
4	81 69 60	53 79 67	59 52 65	57 52 62	56 51 60	55 50 48
5	74 61 51	44 72 60	51 44 57	50 44 55	49 43 53	47 43 40
6	68 54 45	38 66 53	44 38 51	43 38 50	43 37 48	42 37 35
7	63 49 40	33 61 48	39 33 46	38 33 45	38 32 43	37 32 30
8	58 44 35	29 56 43	35 29 42	34 29 41	34 29 39	33 28 26
9	54 40 32	26 53 40	31 26 38	31 26 37	30 25 36	30 25 23
10	51 37 29	23 49 36	28 23 35	28 23 34	28 23 33	27 23 21

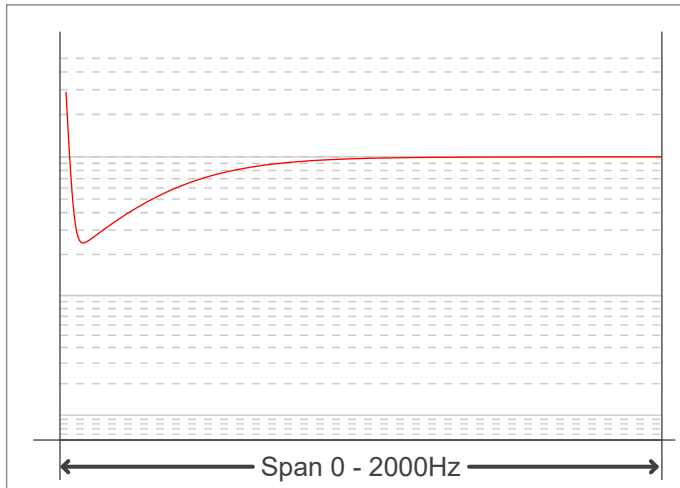


Flicker Details

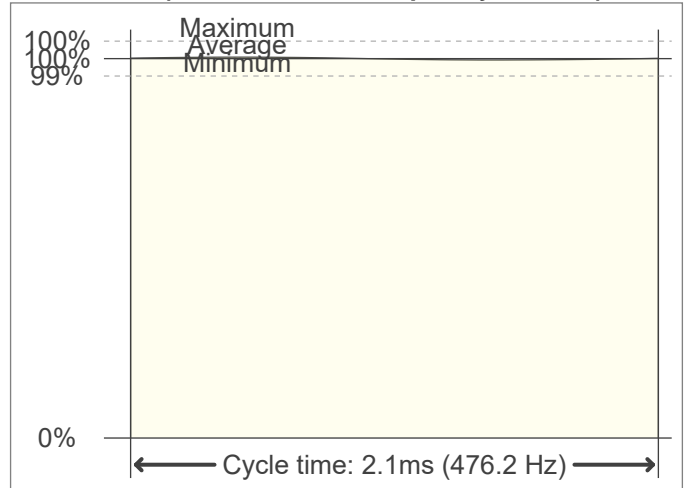
Flicker Meter Type	Viso Systems LabFlicker
Frequency of Input Power	60 Hz
Flicker/TLA Sample Rate	20000 sample/s
Measurement Time	
PstLM	180 sec
All other indices	1.2 sec

Flicker Indices (IES)	
Flicker Percentage	0.51%
Flicker Frequency	476.19 Hz
Flicker Index	0
Flicker SVM Value	0.01
Flicker PstLM Value	0.02

Flicker Frame



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/Modulation Plot

