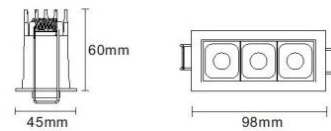
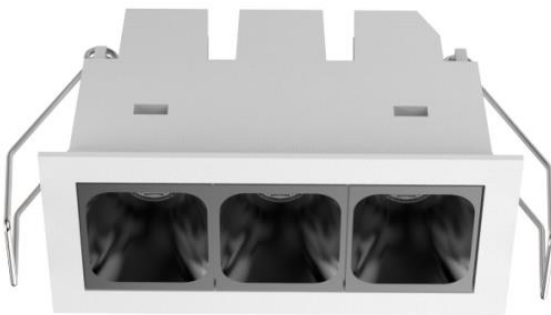




Product Overview

Product Name / Code	LINX 7W Linear Downlight Fixed - LC4460
Description	3000K, IP40, 40°, White/Black Insert, Phase Dim
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

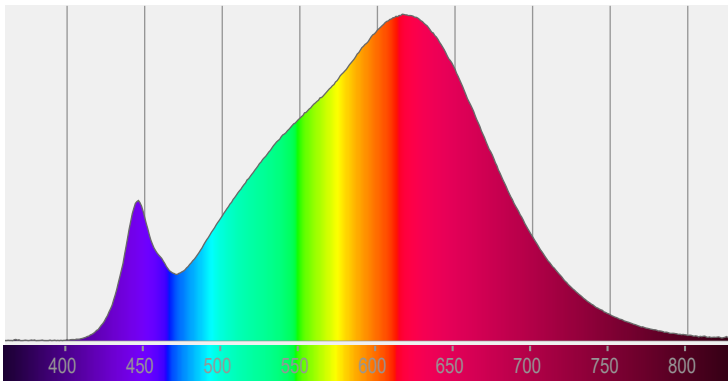
Test Date and Time	5/05/2023 11:00:18 AM
Operator	Johnny Elmer
C-Planes Measured	36
Measurement Resolution	10°
Measurement Distance	464.4cm
Measurement Number	VFR-230505-0077-MS
Tracking Link	http://www.visosystems.com/tracking/?id=VT230508-002572



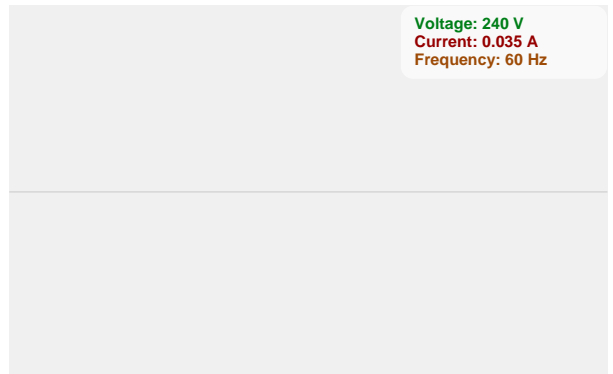
Performance

Total Lumen Output	598 lm
Light Efficiency	78 Lumen/Watt
Peak (cd)	2666 cd
Nominal Power	7.7 W
Input Voltage	240 V
Frequency of Input Power	60 Hz
Power Factor	0.91
Warm-up (stabilisation) Time	Lamp stabilized in 1 hour 1 min
Warm-up Variation	-8.5

Spectral Power Distribution (SPD)



Input Power Curve

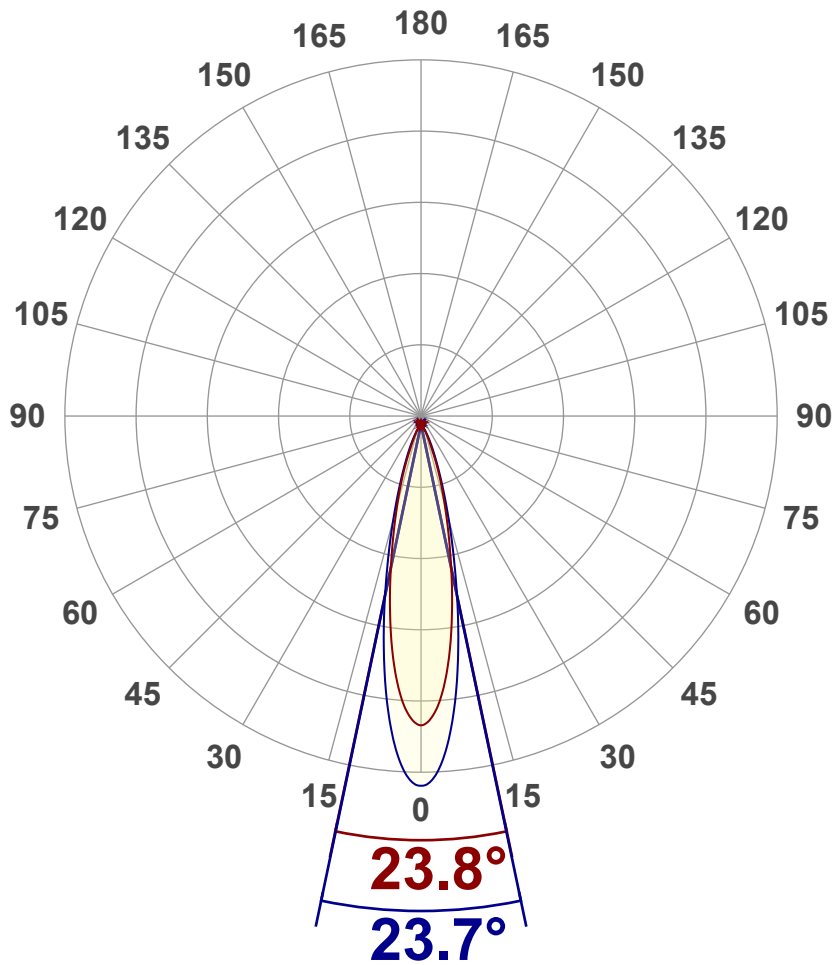


Optic Specifications

Correlated Colour Temperature, Target	3000K
Correlated Colour Temperature, Measured	3028K
Colour Rendering Index	CRI 90.2
R9 Value	R9 = 50.2
Colour Rendering TM30-18	R _f 91.5 - R _g 98.6
Colour Quality Scale	CQS = 89.7
Beam Angle	26.7°



Angular Distribution – 0° / 90° Plane



Main Values

Total Lumen Output	598 lm
Lumen Up% / Down%	0.28 % / 99.72%
Peak Intensity	2666 cd
Beam Angle (50%)	26.7°
Beam Angle (90%)	23.7°
Beam Angle (10%)	24.2°

Cut-off Angle

Average 2.5%	70.2°
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Field Angle

Average 10%	51.8°
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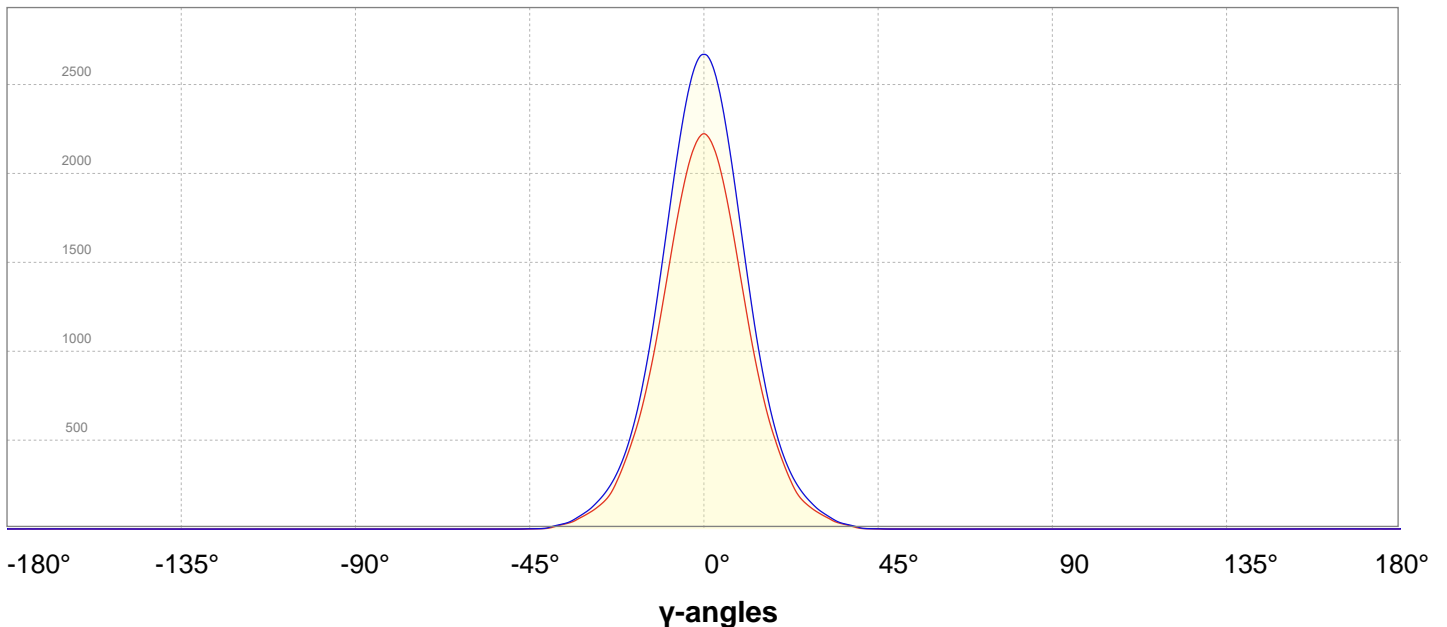
Intensity Ratio

In 120° Cone	99.6%
In 90° Cone	99.3%

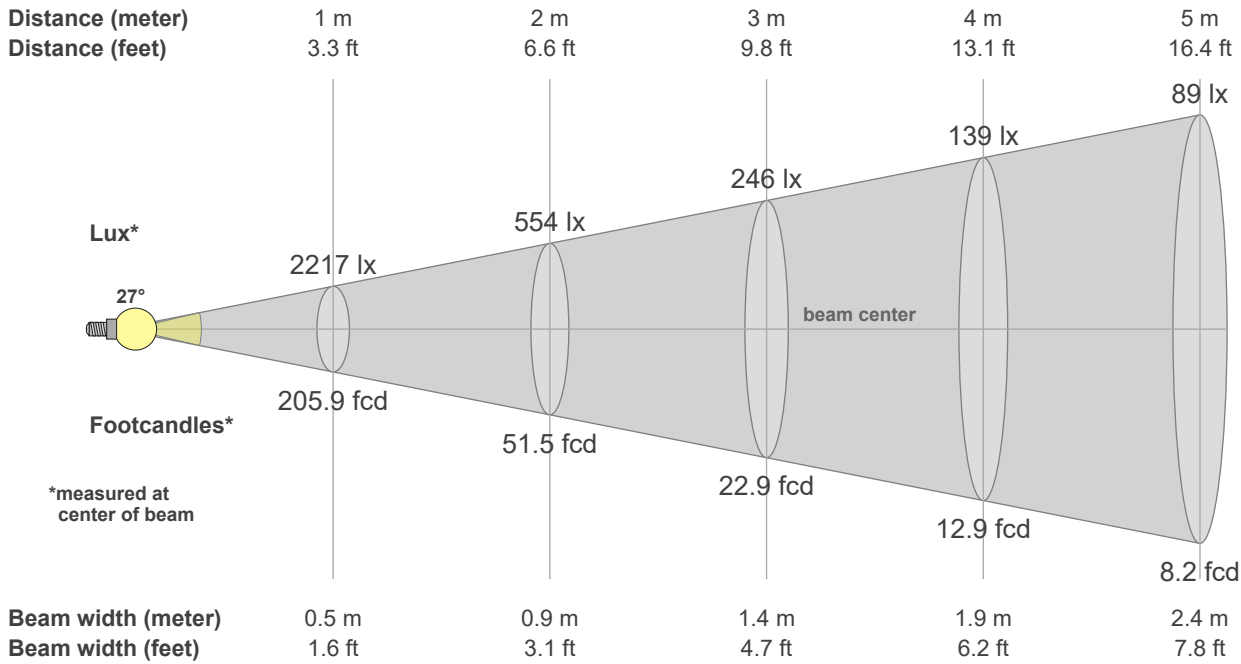
C000-C180

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
2217	554	246	139	89	62	45	35	27	22	18	15	13	11	10	9	8	7	6	6	lux
205.9	51.5	22.9	12.9	8.2	5.7	4.2	3.2	2.5	2.1	1.7	1.4	1.2	1.1	0.9	0.8	0.7	0.6	0.6	0.5	fc

Intensities in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°	γ
2217	2170	2041	1845	1606	1348	1097	873	683	530	402	292	204	151	115	87	63	41	28	17	cd
100%	98%	92%	83%	72%	61%	49%	39%	31%	24%	18%	13%	9%	7%	5%	4%	3%	2%	1%	1%	of 0°val

Intensities in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°	γ
2217	2615	2460	2222	1932	1618	1309	1027	791	598	449	336	252	190	142	103	74	48	31	21	cd
100%	118%	111%	100%	87%	73%	59%	46%	36%	27%	20%	15%	11%	9%	6%	5%	3%	2%	1%	1%	of 0°val

Intensities in 180° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°	γ
2217	2170	2041	1845	1606	1348	1097	873	683	530	402	292	204	151	115	87	63	41	28	17	cd
100%	98%	92%	83%	72%	61%	49%	39%	31%	24%	18%	13%	9%	7%	5%	4%	3%	2%	1%	1%	of 0°val

Intensities in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°	γ
2217	2615	2460	2222	1932	1618	1309	1027	791	598	449	336	252	190	142	103	74	48	31	21	cd
100%	118%	111%	100%	87%	73%	59%	46%	36%	27%	20%	15%	11%	9%	6%	5%	3%	2%	1%	1%	Of 0°val

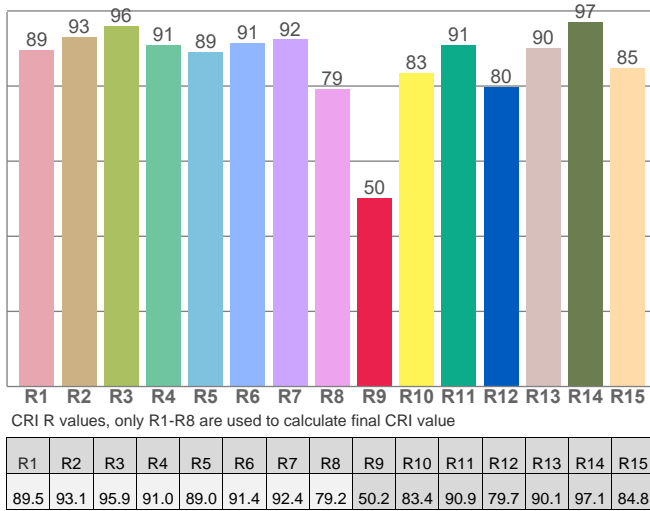


Colour Details

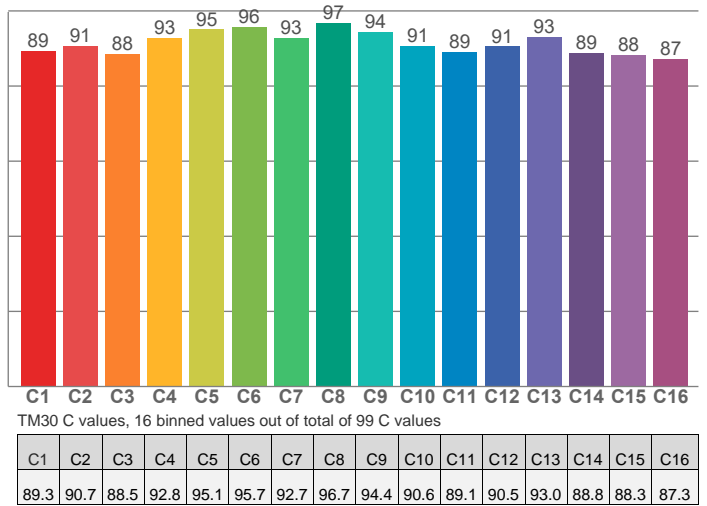
Correlated Colour Temperature, Target	CCT = 3000K
Correlated Colour Temperature, Measured	CCT = 3028K
Colour Rendering Index	CRI 90.2
Colour Rendering Index R9 Value	R9 = 50.2
Colour Rendering TM30-18	R _f 91.5, R _g 98.6
Colour Quality Scale	CQS = 89.7

MacAdam Steps	SDCM = 2.6
Colour Coordinates CIE 1931	(x;y) = (0.437;0.404)
Colour Coordinates CIEs 1960	(u;v) = (0.251; 0.348)
Colour Deviation from BBL	Duv = 0.0026
Colour Coordinate CIEs 1976 (CIELUV)	(u';v') = (0.251;0.251)

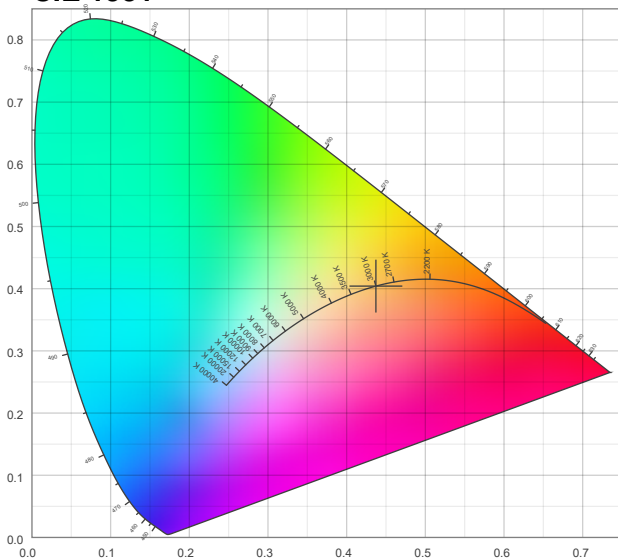
Colour Rendering Index per reference colour (CIE 1995)



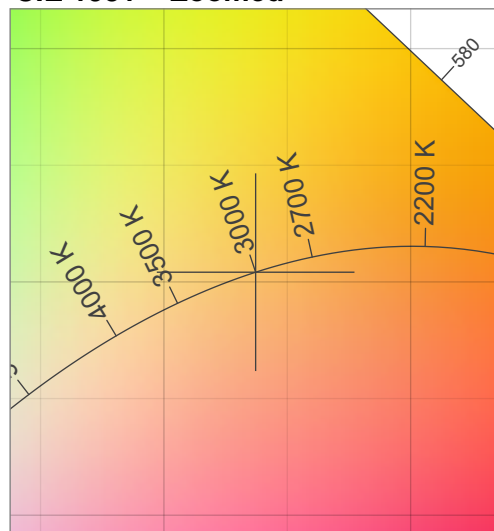
TM30-18 Rf-values per hue bin



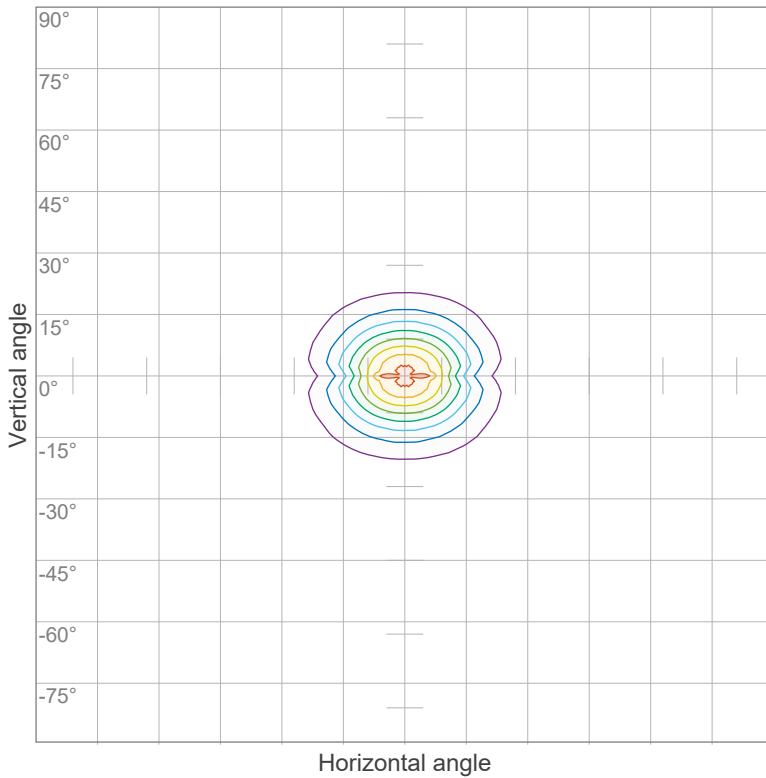
CIE 1931



CIE 1931 – Zoomed



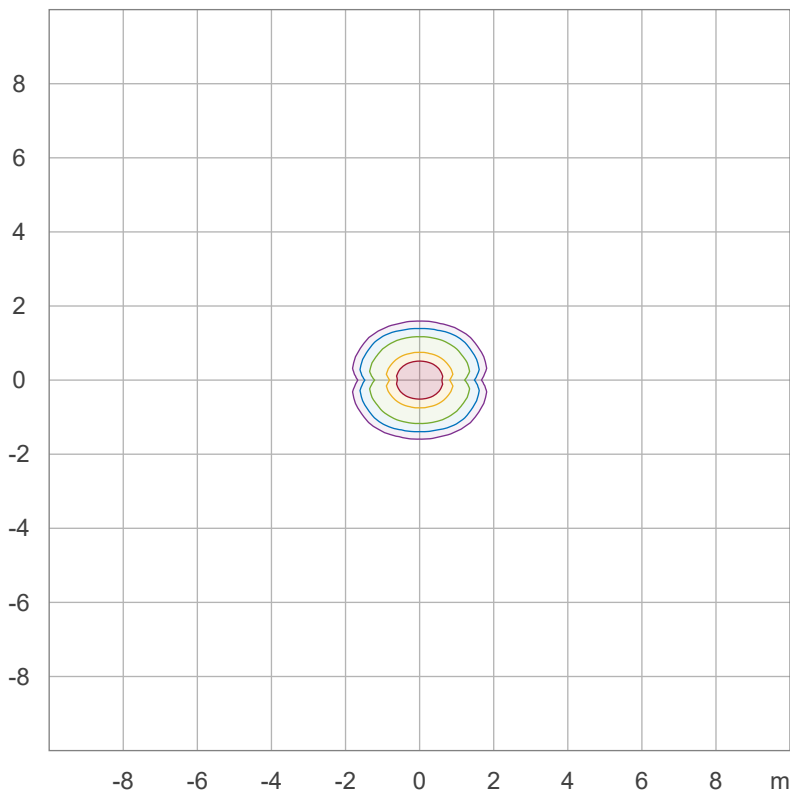
Iso-intensity Diagram (Iso-Candela)



90 %	2389.5 cd
80 %	2124.0 cd
70 %	1858.5 cd
60 %	1593.0 cd
50 %	1327.5 cd
40 %	1062.0 cd
30 %	796.5 cd
20 %	531.0 cd
10 %	265.5 cd

Peak intensity: 2655.0 cd
Number of c-planes: 36

Iso-illuminance Diagram (Iso-lux)



50.0 %	147.4 lx
30.0 %	88.5 lx
10.0 %	29.5 lx
5.0 %	14.7 lx
3.0 %	8.8 lx

Peak illuminance: 294.9 lx
Mounting height: 3.0 m
Number of c-planes: 36



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											
X	Y	(Viewing direction orthogonal to lamp length axis)					(Viewing direction parallel to lamp length axis)				
2H	2H	6.8	7.3	6.9	7.5	7.6	10.1	10.6	10.2	10.8	11.0
	3H	6.5	7.1	6.9	7.3	7.5	9.8	10.4	10.2	10.6	10.8
	4H	6.4	7.0	6.8	7.2	7.5	9.7	10.3	10.1	10.5	10.8
	6H	6.4	6.9	6.7	7.2	7.5	9.7	10.2	10.0	10.5	10.9
	8H	6.4	6.8	6.7	7.2	7.5	9.7	10.1	10.0	10.5	10.8
	12H	6.3	6.8	6.7	7.1	7.5	9.6	10.1	10.0	10.4	10.8
4H	2H	6.4	7.0	6.8	7.2	7.5	9.7	10.3	10.1	10.5	10.8
	3H	6.3	6.8	6.7	7.1	7.5	9.6	10.1	10.0	10.4	10.8
	4H	6.2	6.6	6.6	7.0	7.5	9.5	9.9	9.9	10.3	10.8
	6H	6.1	6.6	6.6	6.9	7.2	9.4	9.9	9.9	10.2	10.5
	8H	6.0	6.5	6.6	6.8	7.2	9.3	9.8	9.8	10.1	10.5
	12H	6.0	6.3	6.5	6.7	7.2	9.3	9.6	9.8	10.0	10.5
8H	4H	6.0	6.5	6.5	6.8	7.2	9.3	9.8	9.8	10.1	10.5
	6H	6.0	6.2	6.5	6.7	7.2	9.3	9.5	9.8	10.0	10.5
	8H	6.0	6.2	6.5	6.7	7.3	9.3	9.5	9.8	10.0	10.6
	12H	5.9	6.1	6.5	6.6	7.2	9.2	9.4	9.8	9.9	10.5
12H	4H	6.0	6.3	6.5	6.7	7.2	9.3	9.6	9.8	10.0	10.5
	6H	6.0	6.2	6.5	6.7	7.3	9.3	9.5	9.8	10.0	10.6
	8H	5.9	6.1	6.5	6.6	7.2	9.2	9.4	9.8	9.9	10.5

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

S = 1.0H	5.7 / -14.2	6.0 / -19.2
S = 1.5H	8.4 / -14.4	8.7 / -19.7
S = 2.0H	10.3 / -14.7	10.7 / -20.0

Coefficients of Utilization

Ceiling reflectance	80	70	50	30	10	0												
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	0						
Floor reflectance	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	115	112	110	109	112	110	109	107	106	105	104	103	101	100	99	98	98	96
2	111	107	104	101	109	105	102	100	102	100	98	99	97	96	96	95	94	92
3	107	102	98	95	105	100	97	94	98	95	93	96	93	91	93	92	90	88
4	103	97	93	90	101	96	92	89	94	91	88	92	90	87	91	88	86	85
5	100	93	89	86	98	92	88	85	91	87	85	89	86	84	88	85	83	82
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85	82	80	79
7	93	86	82	79	92	86	82	79	85	81	78	84	80	78	83	80	77	76
8	90	83	79	76	89	83	79	76	82	78	75	81	78	75	80	77	75	74
9	88	81	76	73	87	80	76	73	79	75	73	78	75	73	78	75	72	71
10	85	78	74	71	84	78	73	71	77	73	70	76	73	70	76	72	70	69

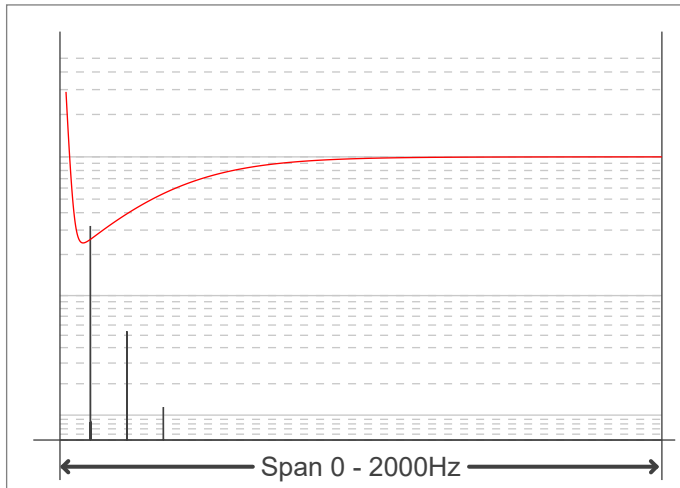


Flicker Details

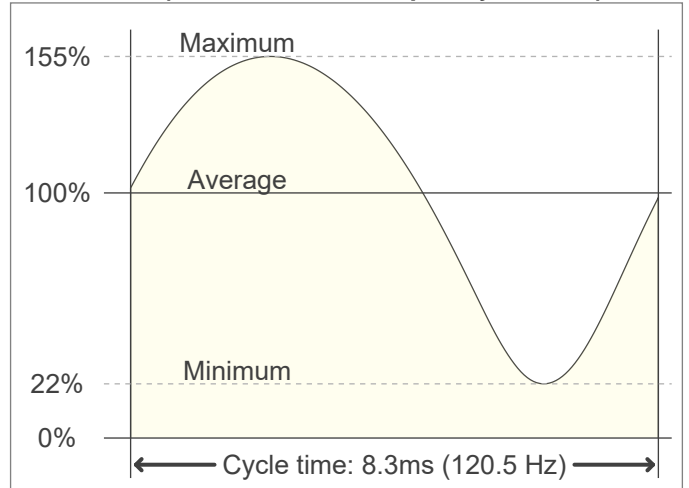
Flicker Meter Type	Viso Systems LabFlicker
Frequency of Input Power	60 Hz
Flicker/TLA Sample Rate	20000 sample/s
Measurement Time	
PstLM	180 sec
All other indices	1.2 sec

Flicker Indices (IES)	
Flicker Percentage	75.16%
Flicker Frequency	120.48 Hz
Flicker Index	0.21
Flicker SVM Value	2.33
Flicker PstLM Value	0.03

Flicker Frame



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/Modulation Plot

