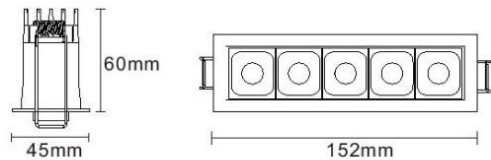




Product Overview

Product Name / Code	LINX 11W Linear Downlight Fixed - LC4470
Description	3000K, IP40, 24°, 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

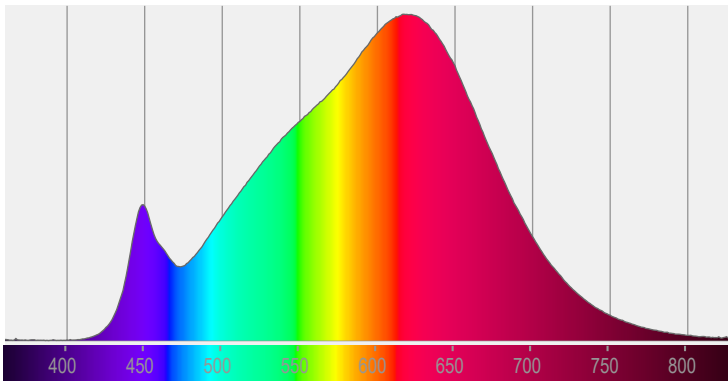
Test Date and Time	9/03/2023 3:17:16 PM
Operator	Johnny Elmer
C-Planes Measured	36
Measurement Resolution	10°
Measurement Distance	461.2cm
Measurement Number	VFR-230309-0005-MS
Tracking Link	http://www.visosystems.com/tracking/?id=VT230324-000378



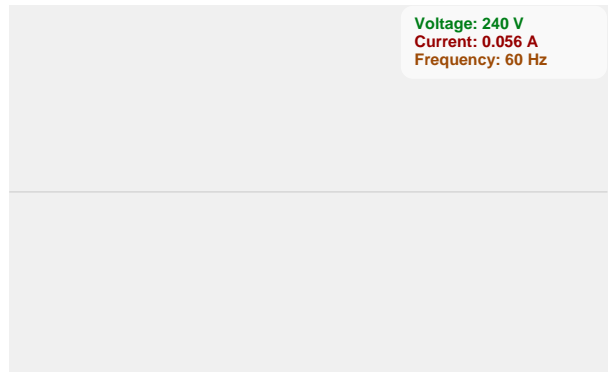
Performance

Total Lumen Output	987 lm
Light Efficiency	78 Lumen/Watt
Peak (cd)	4749 cd
Nominal Power	12.7 W
Input Voltage	240 V
Frequency of Input Power	60 Hz
Power Factor	0.94
Warm-up (stabilisation) Time	Lamp stabilized in 1 hour 1 min
Warm-up Variation	-8.5

Spectral Power Distribution (SPD)



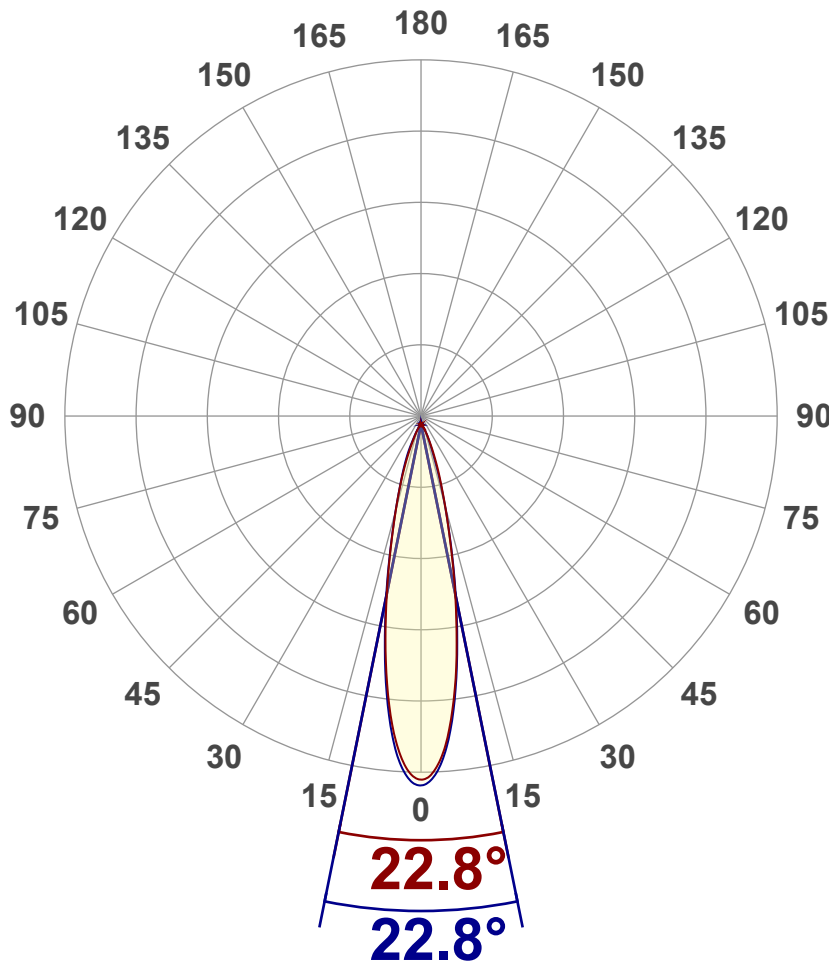
Input Power Curve



Optic Specifications

Correlated Colour Temperature, Target	3000K
Correlated Colour Temperature, Measured	3009K
Colour Rendering Index	CRI 91.2
R9 Value	R9 = 53.5
Colour Rendering TM30-18	R _f 91.8 - R _g 97.6
Colour Quality Scale	CQS = 90.5
Beam Angle	22.9°



Angular Distribution – 0° / 90° Plane

Main Values

Total Lumen Output	987 lm
Lumen Up% / Down%	0.48 % / 99.52%
Peak Intensity	4749 cd
Beam Angle (50%)	22.9°
Beam Angle (90%)	22.8°
Beam Angle (10%)	22.7°

Cut-off Angle

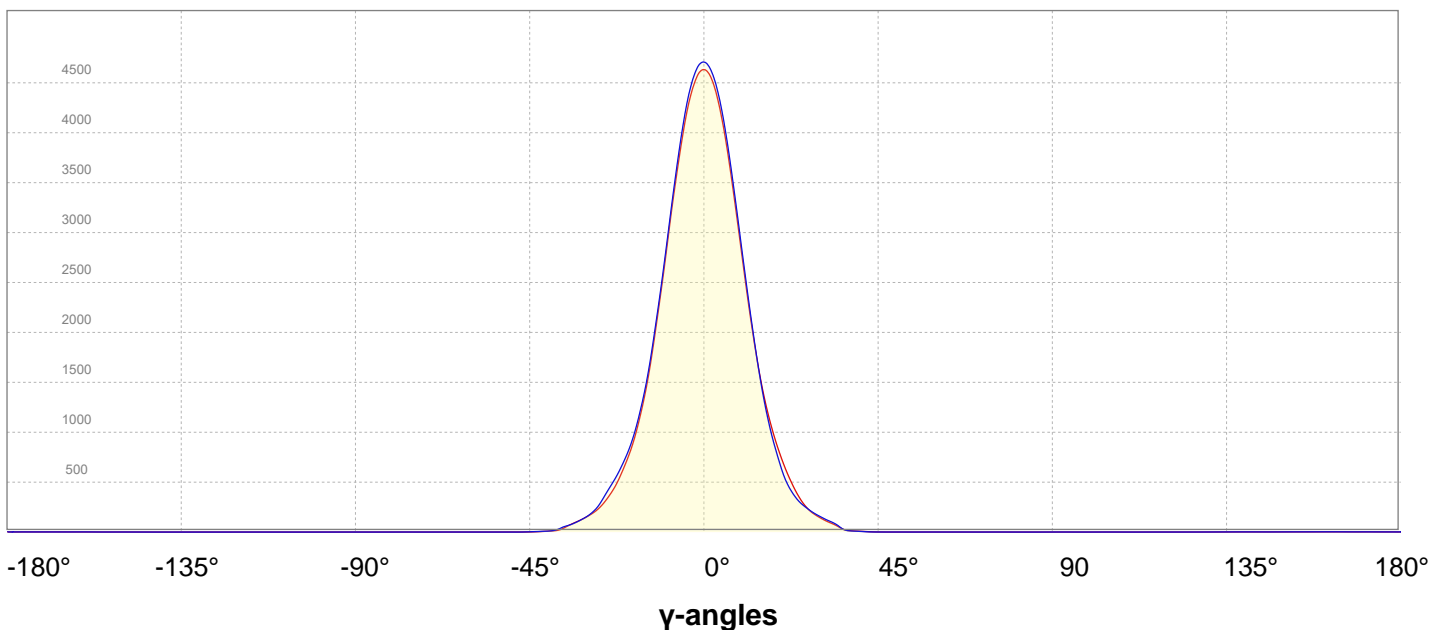
Average 2.5%	64.7°
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Field Angle

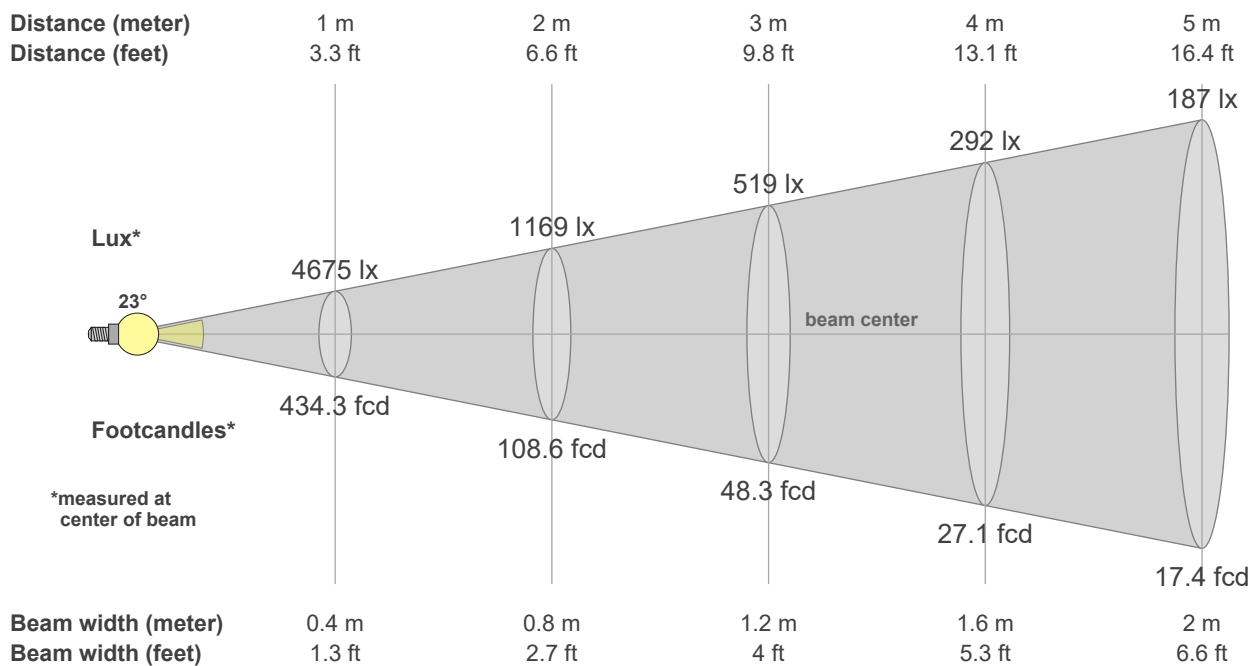
Average 10%	46.5°
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Intensity Ratio

In 120° Cone	99.4%
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
4675	1169	519	292	187	130	95	73	58	47	39	32	28	24	21	18	16	14	13	12	lux
434.3	108.	48.3	27.1	17.4	12.1	8.9	6.8	5.4	4.3	3.6	3	2.6	2.2	1.9	1.7	1.5	1.3	1.2	1.1	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
4675	4537	4273	3843	3315	2720	2155	1641	1241	934	709	529	390	285	210	159	118	83	44	17	cd
100%	97%	91%	82%	71%	58%	46%	35%	27%	20%	15%	11%	8%	6%	4%	3%	3%	2%	1%	0%	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
4675	4604	4335	3906	3361	2769	2192	1667	1234	902	640	451	333	258	201	156	117	80	30	11	cd
100%	98%	93%	84%	72%	59%	47%	36%	26%	19%	14%	10%	7%	6%	4%	3%	3%	2%	1%	0%	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
4675	4531	4256	3832	3297	2718	2158	1670	1280	981	743	549	391	272	194	144	103	69	29	13	cd
100%	97%	91%	82%	71%	58%	46%	36%	27%	21%	16%	12%	8%	6%	4%	3%	2%	1%	1%	0%	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
4675	4621	4358	3919	3367	2765	2198	1688	1289	986	768	602	467	339	229	162	117	81	55	24	cd
100%	99%	93%	84%	72%	59%	47%	36%	28%	21%	16%	13%	10%	7%	5%	3%	3%	2%	1%	1%	Of 0°val

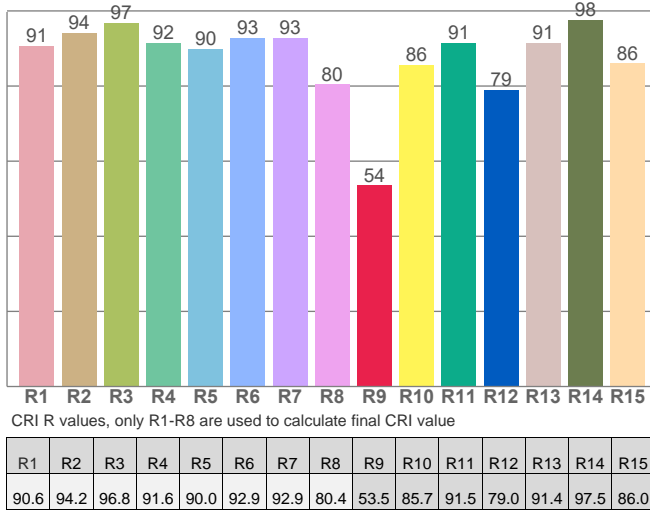


Colour Details

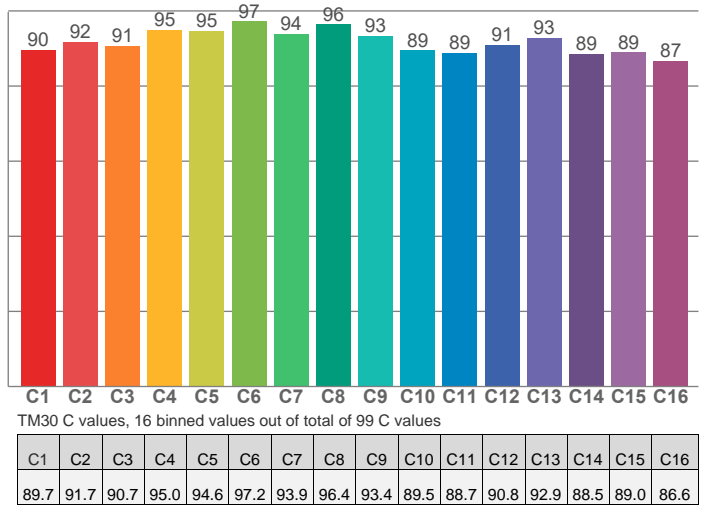
Correlated Colour Temperature, Target	CCT = 3000K
Correlated Colour Temperature, Measured	CCT = 3009K
Colour Rendering Index	CRI 91.2
Colour Rendering Index R9 Value	R9 = 53.5
Colour Rendering TM30-18	R _f 91.8, R _g 97.6
Colour Quality Scale	CQS = 90.5

MacAdam Steps	SDCM = 2.8
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 = 0.0028
Colour Coordinate CIEs 1976 (CIELUV)	(u';v') = (0.251;0.251)

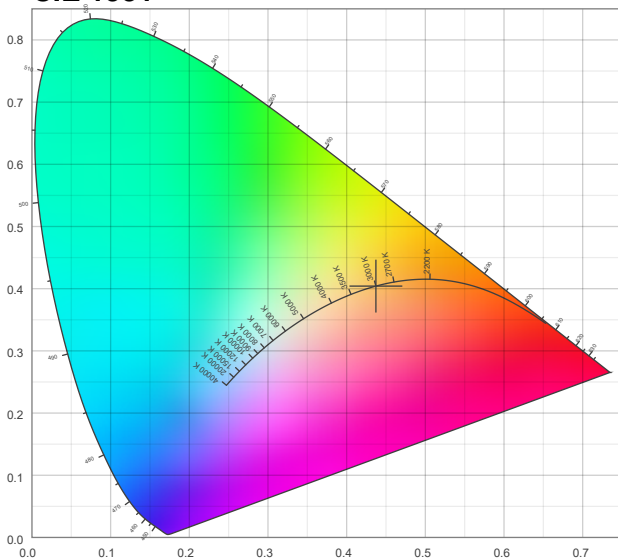
Colour Rendering Index per reference colour (CIE 1995)



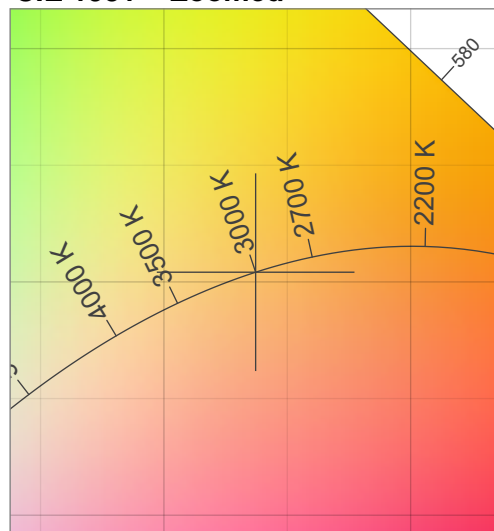
TM30-18 Rf-values per hue bin



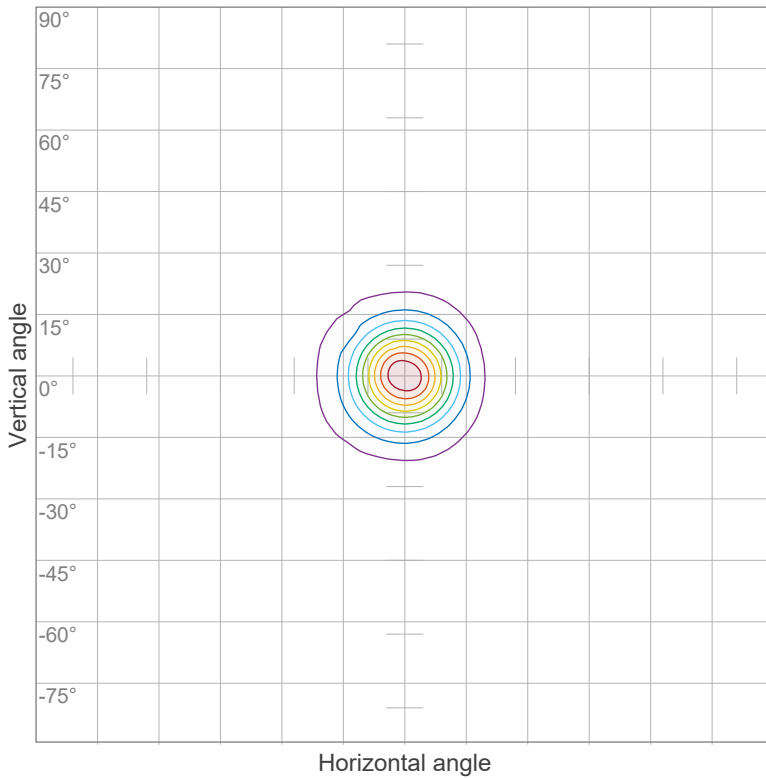
CIE 1931



CIE 1931 - Zoomed



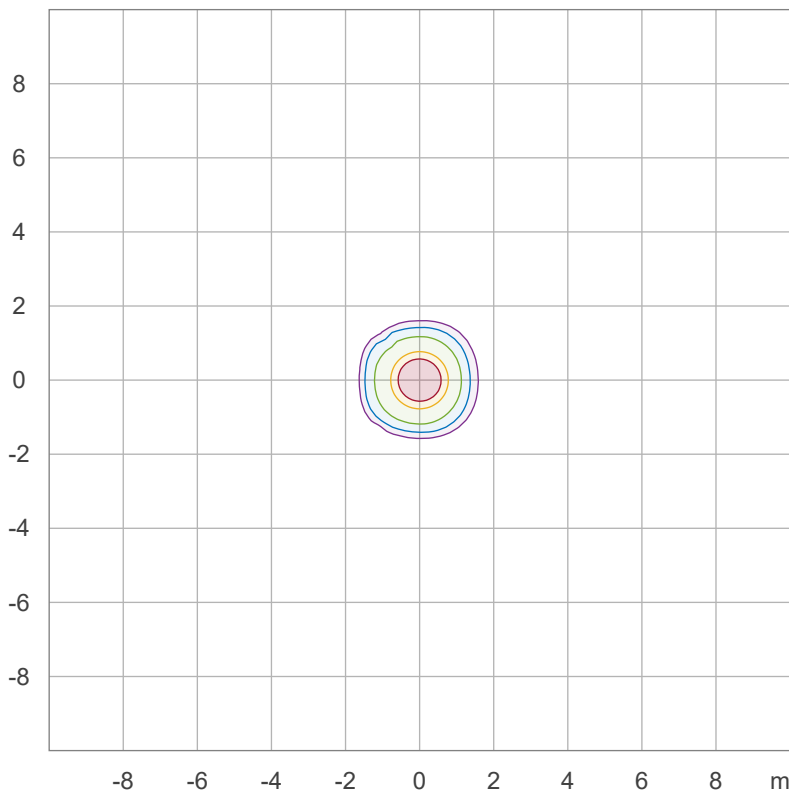
Iso-intensity Diagram (Iso-Candela)



90 %	4254.5 cd
80 %	3781.8 cd
70 %	3309.1 cd
60 %	2836.4 cd
50 %	2363.6 cd
40 %	1890.9 cd
30 %	1418.2 cd
20 %	945.5 cd
10 %	472.7 cd

Peak intensity: 4727.3 cd
Number of c-planes: 36

Iso-illuminance Diagram (Iso-lux)



50.0 %	262.5 lx
30.0 %	157.5 lx
10.0 %	52.5 lx
5.0 %	26.3 lx
3.0 %	15.8 lx

Peak illuminance: 525.0 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		(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
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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	113	111	109	112	111	109	107	106	105	104	103	102	101	99	99	98	96
2	111	107	104	102	109	106	103	101	102	100	98	100	98	96	97	95	94	93
3	107	103	99	96	106	101	98	95	99	96	94	97	94	92	94	93	91	90
4	104	99	95	92	102	98	94	91	96	92	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	87	92	89	87	91	88	86	89	87	85	84
6	98	92	87	84	97	91	87	84	90	86	84	88	85	83	87	84	82	81
7	95	89	84	81	94	88	84	81	87	83	81	86	83	80	85	82	80	79
8	92	86	82	79	91	85	81	79	84	81	78	83	80	78	83	80	78	77
9	90	83	79	76	89	83	79	76	82	78	76	81	78	76	81	78	76	75
10	88	81	77	74	87	81	77	74	80	76	74	79	76	74	78	76	73	73

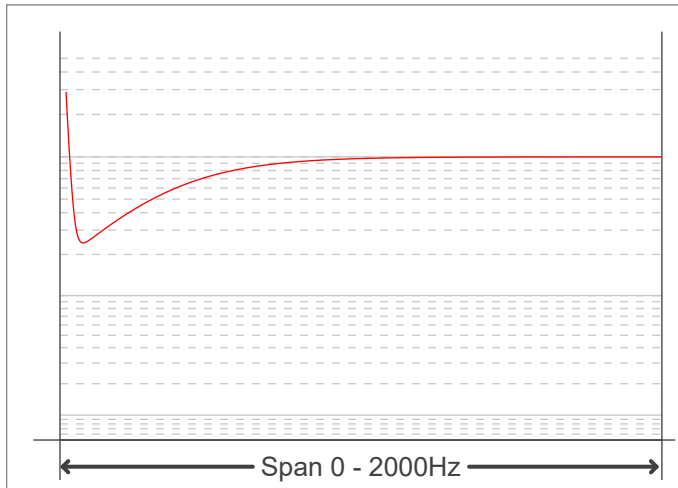
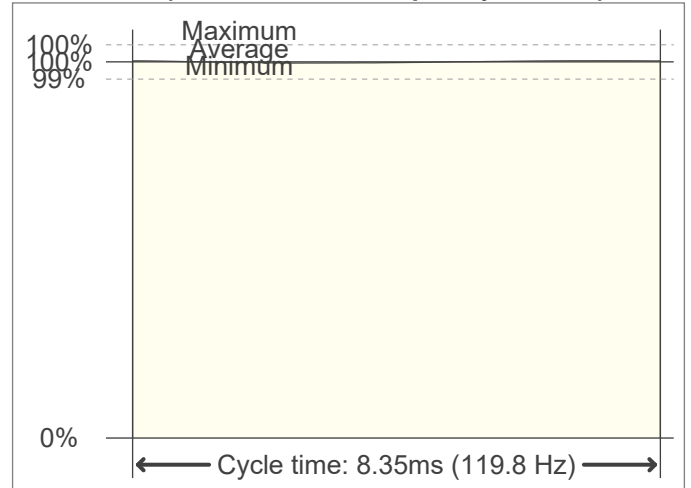


Flicker Details

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	1.73%
Flicker Frequency	119.76 Hz
Flicker Index	0
Flicker SVM Value	0.01
Flicker PstLM Value	0

Flicker Frame

Flicker FFT (flicker curve in frequency domain)

IEEE 1789 Frequency/Modulation Plot
