

Light Measurement Report

Print date: 2024-12-13
Measurement date and time: 2024-12-13 10:50:24 AM – Measurement no. VFR-241213-0087-MS
Operator: NC
SKU: SPFX-O24V-RGBW30-210-30-5M-BEW - RGB + 3000k White



Laboratory and Equipment

Laboratory Owner and Location	Moss LED, Toronto, Ontario, Canada
Goniospectrometer System and Type	BaseSpion – Type C, horizontal
Sensor Name, Calibr. Date and Serial No.	BaseSensor – 2023-06-27 – 2807073281
Spectrometer Manufacturer and Model	Ibsen Photonics, Denmark – Freedom VIS (Custom Viso)

Measurement Conditions

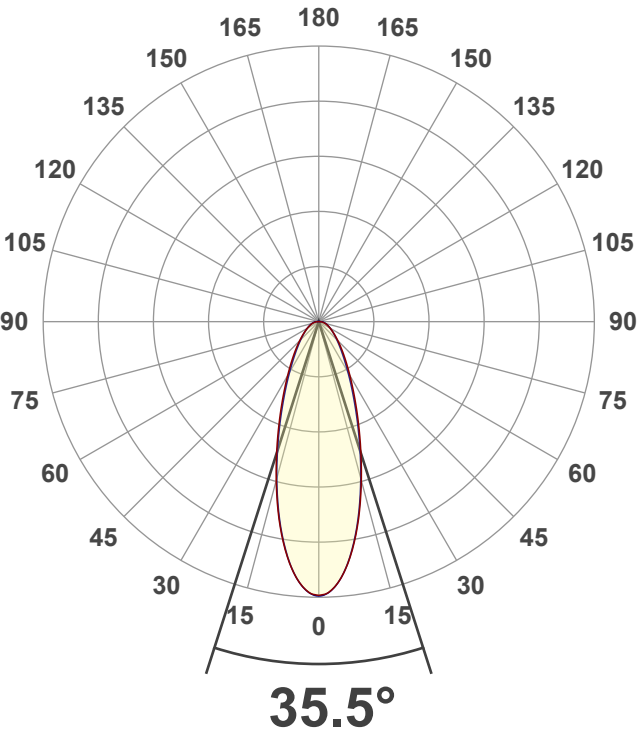
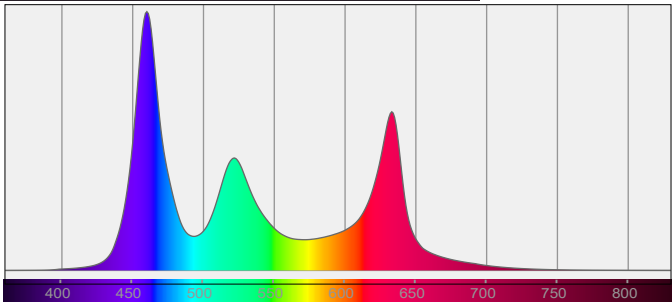
Number of C-planes and Resolution	24 planes – 15°
γ (gamma)-Resolution	1.5°
Test Distance	2.50 m
Input Power, Power and Displ. Factors	24.2 W – PF 1.0 – DPF 0.0
Input RMS Voltage and Current	24.0 V – 1.01 A
Frequency of Input Power	0 Hz

Tested Light Source

Product Name	SPFX-O24V-RGBW30-210-30-5M-BEW
Item No. and Manufacturer	24V, RGB+WW, 42 LPM, RGBW test. – MossLED

Main Light Measurement Results

Output	1467 lm
Efficiency	61 lm/W
Peak Intensity and Beam Angle	2047 cd – 35.5°
Correlated Color Temperature, Target/Measured	CCT = 10901 K / 10901 K
Color Rendering Index	CRI 59.1
Color Rendering TM30-18	R _f 71.1 – R _g 108.4
Color Shift, CIE duv and MacAdam Steps	Duv -0.0167 – SDCM n/a
Flicker	SVM n/a – PstLM n/a



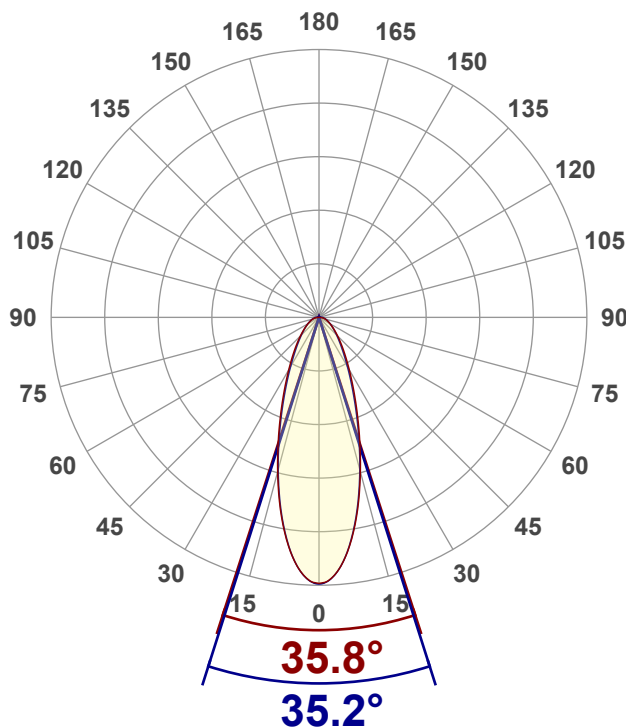
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Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

Output (total Lumen)	1467 lm
Peak Intensity	2047 cd
Beam Angle (50%)	35.5°
Beam Angle (90%)	35.2°
Beam Angle (10%)	35.8°

Cut-off Angle

Average 2,5%	150.3°
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Field Angle

Average 10%	88.4°
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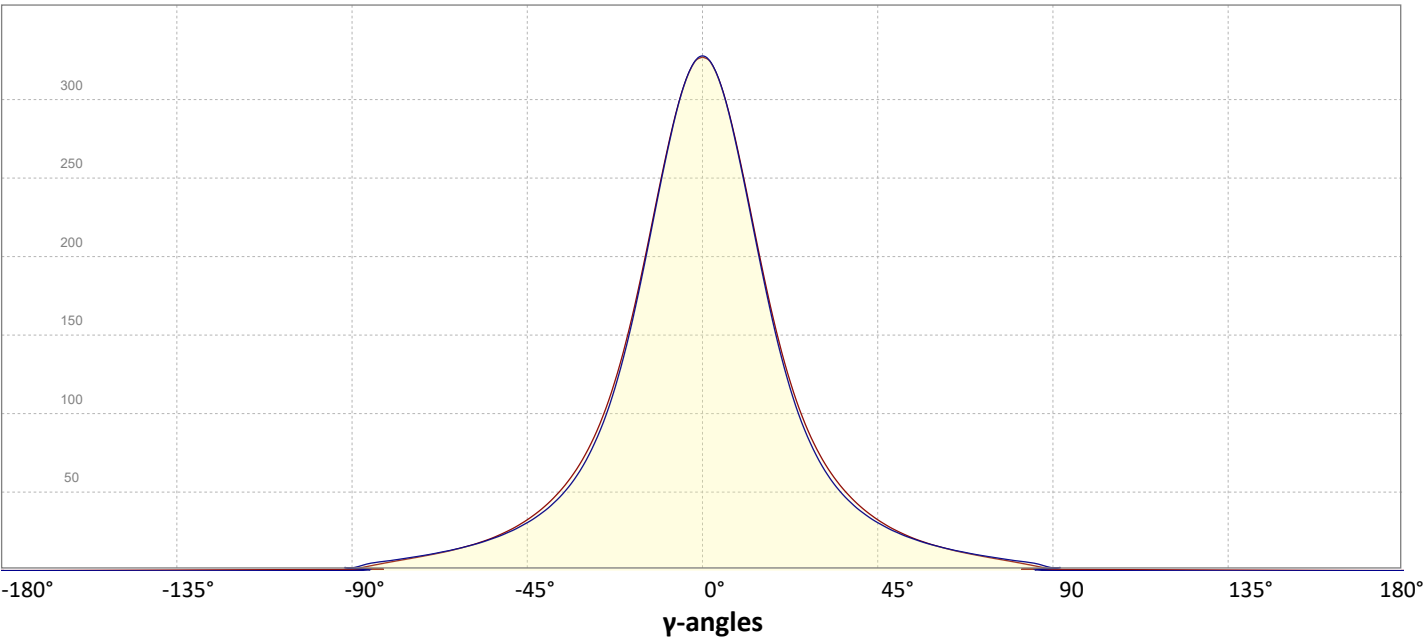
Intensity Ratio

In 120° cone	86.8%
In 90° cone	74.4%

C000-C180 Horizontal

C090-C270 Vertical

Linear distribution diagram - Intensity (candela) vs γ-angle



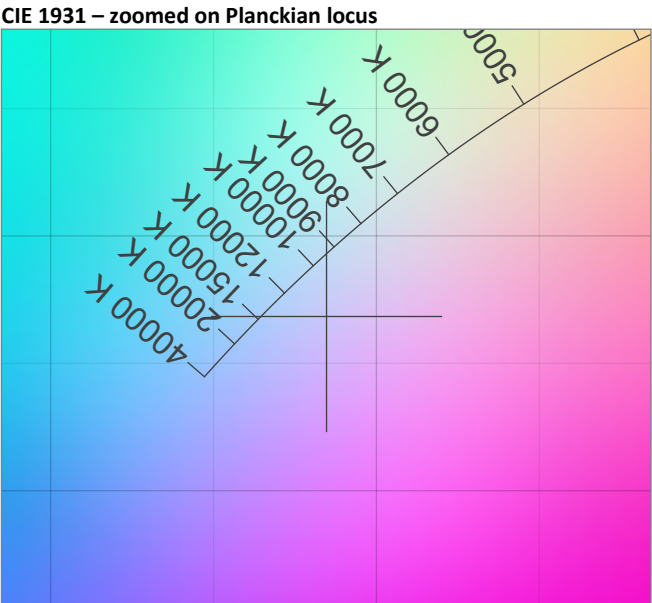
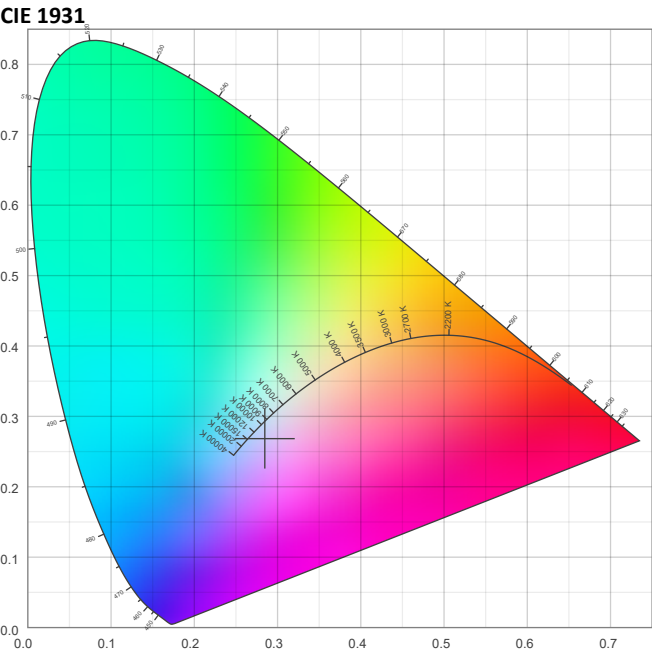
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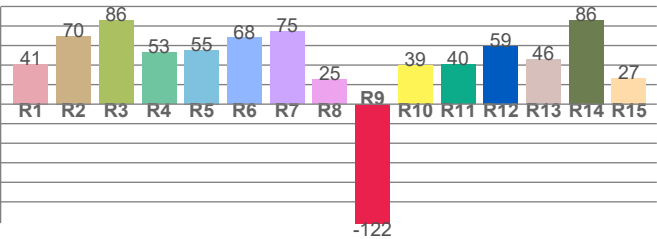


Color details

Correlated Color Temperature, Target	CCT = 10901 K	MacAdam Steps	SDCM = n/a
Correlated Color Temperature, Measured	CCT = 10901 K	Color coordinates CIE 1931	(x;y) = (0.285;0.268)
Color Rendering Index	CRI 59.1	Color coordinate CIEs 1960	(u;v) = (0.202;0.285)
Color Rendering Index, R9 (red component)	R9 = -121.8	Color deviation from BBL	Duv = -0.0167
Color Rendering TM30-18	R _f 71.1 – R _g 108.4	Color coordinate CIEs 1976 (CIELUV)	(u';v') = (0.202;0.427)
Color Quality Scale	CQS = 78.8		



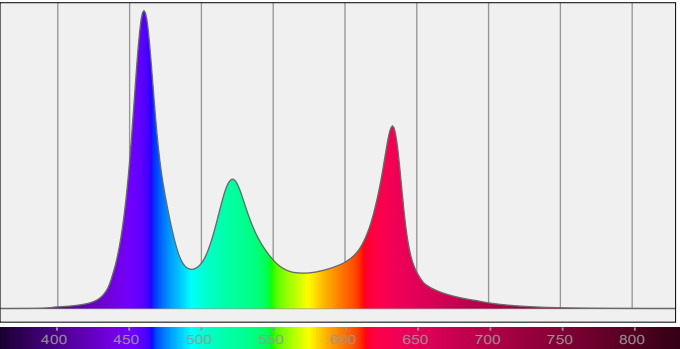
Color Rendering Index per reference color (CIE 1995)



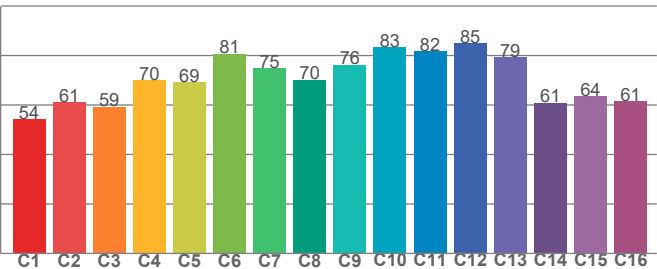
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
41.2	69.8	85.7	53.1	55.4	67.9	74.7	25.4	-121.8	39.5	40.4	59.4	46.0	86.1	26.6

Spectral power distribution (SPD) / W/nm – 0-100%



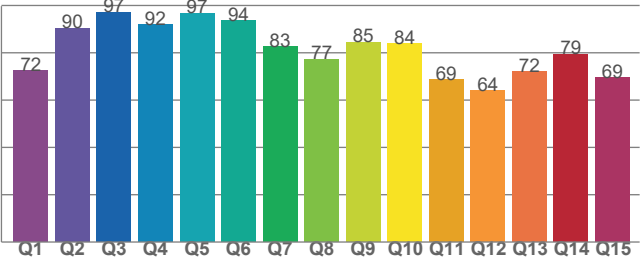
TM30-18 Rf-values per hue bin



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
54.3	61.2	59.3	70.0	69.2	80.7	74.9	70.2	76.3	83.3	81.6	84.8	79.2	60.9	63.5	61.4

Color Quality Scale by reference color

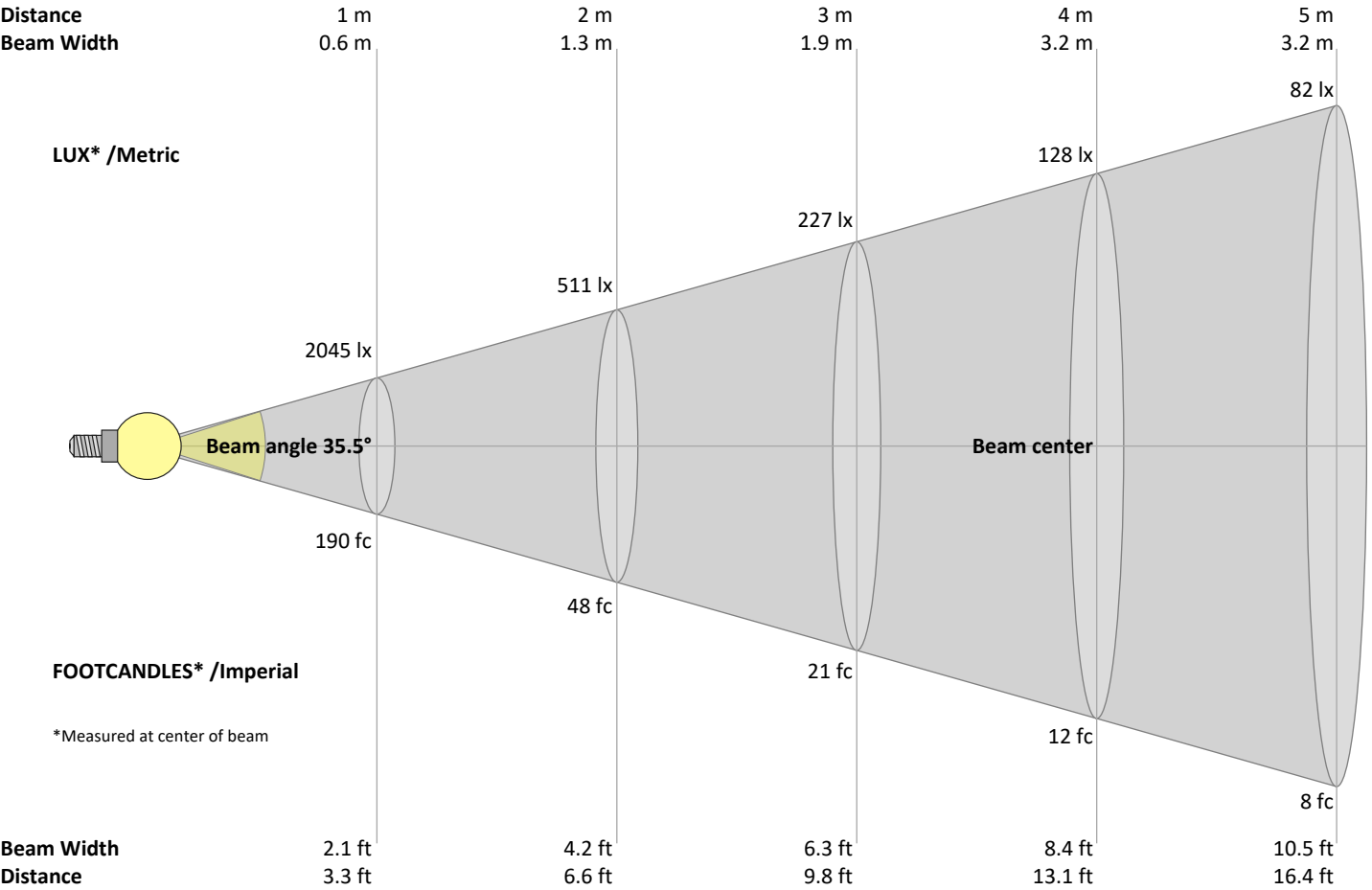


CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
72.3	90.3	97.2	91.9	96.7	93.5	82.6	77.2	84.5	83.8	68.5	63.9	71.9	79.3	69.5

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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
2045	511	227	128	82	57	42	32	25	20	17	14	12	10	9	8	7	6	6	5	lux
190	47.5	21.1	11.9	7.6	5.3	3.9	3	2.3	1.9	1.6	1.3	1.1	1	0.8	0.7	0.7	0.6	0.5	0.5	fc

Power Details

Input Power

Power feed to light source	24.2 W
Frequency of input power	0 Hz
RMS Input voltage feed, V_{RMS}	24.0 V
RMS Input current feed, I_{RMS}	1.01 A
Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$	24.24 VA
Displacement factor of AC power feed	0.0
Power factor of AC current feed	1.0
Total harmonic distortion of the current	0%
Total harmonic distortion of the voltage	0%

Efficiency

