

Test Report

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

< LED PERFORMANCE TESTING -[SLTB27227XX]>

REPORT NUMBER

2501B0461SHA-003

ISSUE DATE

2025-01-08

[REVISED DATE]

[None]

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Test Report

Report No. 2501B0461SHA-003

Date: 2025-01-08

TEST OF Tawa Accent Rechargeable Table Lamp

MODEL NO. SLTB27227XX

RENDERED TO
Visual Comfort & Co.
7400 LINDER AVE SKOKIE, IL 60077

TEST: Electrical and Photometric as required to the IESNA LM-79 test standard.

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR for Luminaires by NVLAP program.

AUTHORIZATION: The testing performed was authorized by signed quote number QSH241224053.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

NEMA ANSI C78.377: 2015	Specifications of the Chromaticity of Solid-State Lighting Products
IESNA LM-79: 2019	Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI C82.77-2002	Harmonic Emission Limits – Related Power Quality Requirements for Lighting Equipment
CIE No. 13.3 – 1995	Method of Measuring and Specifying Colour Rendering Properties of Light Sources
IESNA LM-16: 1993	Practical Guide to Colorimetry of Light Sources

DESCRIPTION OF SAMPLE: The client submitted one sample of model SLTB27227XX. The sample was received by Intertek on December 20, 2024, in undamaged condition, and one sample was tested as received. The sample designations was 0241220-12-003.

DATES OF TESTS: December 20, 2024 to January 08, 2025

ISSUED BY: Intertek Testing Services (Shanghai FTZ) Co., Ltd.

TEST LOCATION: Building No 86, 1198 Qinzhou Road North Shanghai, 200233 China

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Prepared and checked by:



(Heven Liu)
(Sr. Certification Engineer)

Reviewed by:



(Jordan Rao)
(Reviewer)

Note: This report must not be used by the clients to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. Not all standards were covered in NVLAP accreditation.

Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

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Summary

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	SLTB27227XX
Product Description:	Tawa Accent Rechargeable Table Lamp
LED Model No.:	DTG-AT03a-0220-05-02-B0004-230701
Driver Model No.:	D-TL-A78-01-A-V2.2
Light Source:	LED

Criteria	Result			
	Goniophotometer	Integrating Sphere (LOW-Output)	Integrating Sphere (MIDDLE-Output)	Integrating Sphere (HIGH-Output)
Light Output(lumens)	214.30	50.40	105.41	214.08
Input Power(W)	2.21	0.72	1.19	2.19
Lumen Efficacy(lm/w)	96.97	70.00	88.58	97.75

Criteria	Integrating Sphere (LOW-Output)	Integrating Sphere (MIDDLE-Output)	Integrating Sphere (HIGH-Output)
Correlated Color Temperature(K)	2720	2723	2724
Color Reding Index-Ra()	92.6	92.5	92.4
Color Reding Index-R9()	57.8	57.7	57.2
Duv()	0.00121	0.00123	0.00132
Chromaticity Coordinate(x)	0.4603	0.4601	0.4602
Chromaticity Coordinate(y)	0.4140	0.4140	0.4142
Chromaticity Coordinate(u')	0.2613	0.2611	0.2611
Chromaticity Coordinate(v')	0.5287	0.5287	0.5288

Note: the luminaire has three outputs by switch regulating (LOW-Output, Middle Output, High-Output).

EQUIPMENT LIST

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Date last used	Equipment Used	Model Number	Control Number	Last Calibration Date	Calibration
2025.03.26	Fluke Temperature Meter	52	EC4842	2024.03.28	2025.03.27
2025.03.12	Everfine- AC power source for Integrating Sphere System	DPS1010	EC4760-12	2024.03.14	2025.03.13
/	Two meter integrating sphere unit	Everfine – 2M	EC4760	/	/
2025.07.09	Everfine - Digital Power Meter	PF-2010A	EC4760-10	2024.07.11	2025.07.10
2025.02.21	High Accurate Array Spectroradiometer	HASS-2000	EC4760-1	2024.02.23	2025.02.22
2025.08.11	High Accurate Array Spectroradiometer	HASS-2000	EC4753-9	2024.08.13	2025.08.12
2025.07.08	AC Power Source	DPS1060	EC4753-8	2024.07.10	2025.07.09
2025.01.13	Digital power meter	PF-2010A	EC4753-6	2024.01.15	2025.01.14
2025.08.11	High Accurate Intelligent Photometer Head	ID-1000	EC4753-2	2024.08.13	2025.08.12
2025.08.11	FULL-FIELD SPEED GONIOPHOTOMETER	GO-R5000	EC4753-11	2024.08.13	2025.08.12
2025.09.16	Standard Lamp	SCL-1400	EC6449	2024.09.18	2025.09.17

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TEST METHOD

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Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79

Type C Goniophotometer Distribution Testing

Light Distribution and total light output (luminous flux) were measured using a Go-R5000 Type-C Rotating Mirror Goniophotometer. Temperature 25°C and relative humidity of 60% was measured at a position in the testing laboratory.

The lamp rotates only around the fixed vertical axle in the prescribed burning position. The lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made. Stabilization can be judged that stability is reached when the variation (maximum - minimum) of at least 3 readings of the light output and electrical power over a period of 30 min, taken 15 minutes apart, is less than 0.5%.

Integrating sphere testing

Chromaticity was measured using a 2 meters integrating sphere spectral lamp measurement system. Temperature was measured at a position inside the sphere shielded from direct light. Relative humidity of 65% was measured at a position in the testing laboratory.

Spectral radiant flux measurements were made using spectroradiometer (bandwidth: 2nm) attached to the detector port of the integrating sphere. Each lamp was allowed to stabilise before measurements were made. The calibration of the integrating sphere spectroradiometer system is by the reference/standard lamps which are traceable to NIST. Lamp efficacy (lumens per watt) for each lamp model was then computed based on the luminous flux result. Electrical measurements including voltage, power and power factor were measured using everfine - Digital Power Meter., model PF-2010A.

Standard lamp used:
Model: Labsphere SCL-1400
Current: 2.679A

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Test Condition: Type C Goniophotometer Distribution Testing

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vdc)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
0241220-12-003	N/A	5.04	436.1	2.21	/	214.30	96.97

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	Zonal Luminaire Density (%)
0-30	21.16	9.87
0-40	47.45	22.1
0-60	109.8	51.2
60-90	53.8	25.2
70-100	38.7	18.1
90-120	25.8	12.0
0-90	163.6	76.4
90-180	50.7	23.6
0-180	214.30	100

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
Beam (50%)	360	360
Average Beam Angle (50%): 360 °		

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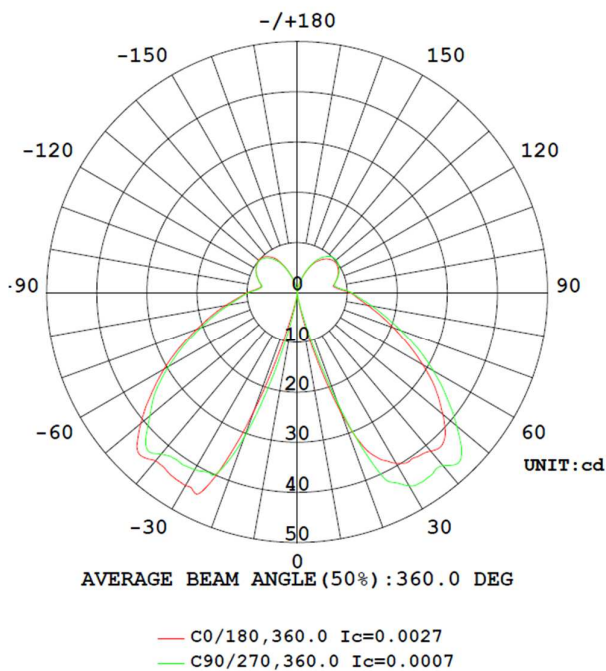
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Intensity (Candlepower) Summary at 25°C – Candelas

C \ G(°)	0	22.5	45	67.5	90
0	0.00	0.00	0.00	0.00	0.00
5	0.19	0.17	0.11	0.11	0.11
10	1.86	1.57	1.16	1.09	1.10
15	10.15	9.14	7.31	7.18	6.76
20	25.43	23.65	21.16	22.09	23.55
25	35.91	33.95	33.94	36.80	40.88
30	39.43	36.56	35.76	39.55	44.65
35	40.45	36.59	35.48	39.75	45.31
40	41.46	37.61	35.87	39.78	45.26
45	41.58	37.30	35.01	40.06	46.34
50	37.99	33.66	31.02	35.62	41.58
55	33.72	30.16	27.40	31.79	36.38
60	28.92	25.96	23.28	27.44	31.39
65	24.37	21.97	19.57	23.36	26.57
70	20.42	18.39	16.33	19.53	22.02
75	17.06	15.25	13.43	16.10	18.18
80	14.25	12.63	11.08	13.42	15.14
85	12.17	10.74	9.33	11.35	12.57
90	10.67	9.54	8.41	10.00	10.92

Luminous Intensity Distribution Diagram



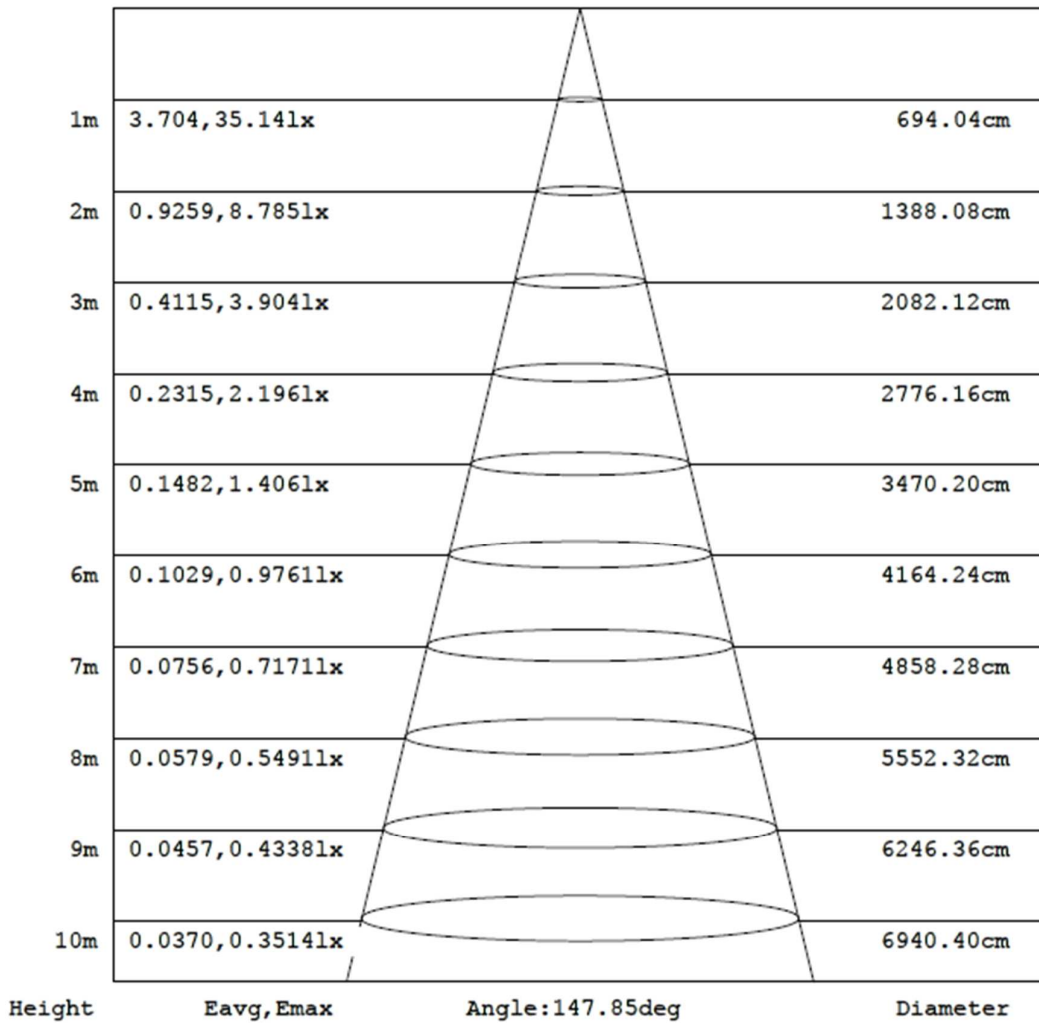
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Mount Height: 10 m
Illuminance - AAI Figure

Flux out:141.5 lm

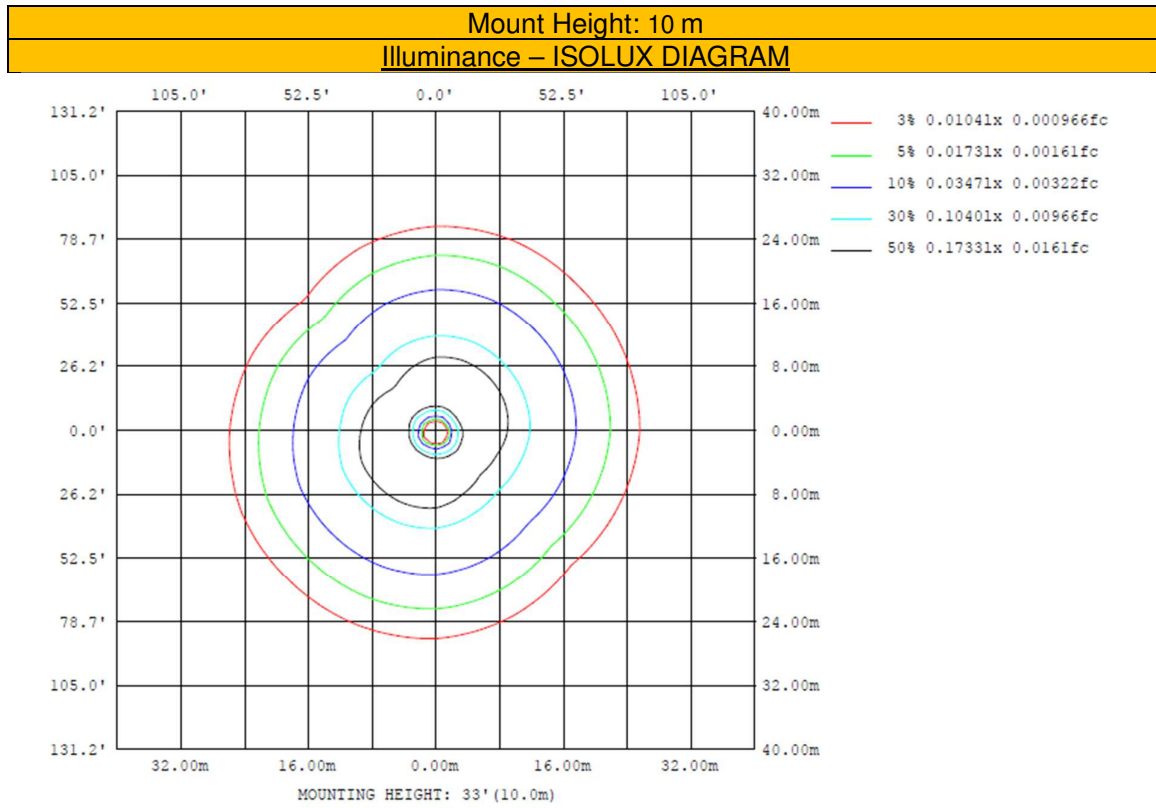


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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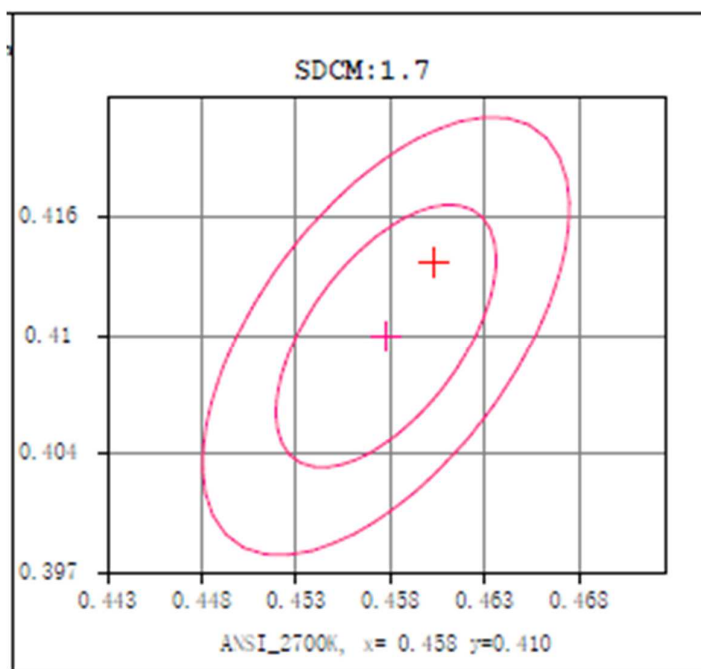
Test Condition: Integrating Sphere Testing (LOW-Output)

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
0241220-12-003	N/A	2720	92.6	0.4603	0.4140	0.2613	0.5287

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vdc)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
0241220-12-003	N/A	5.0	143.3	0.72	/	50.40	70.00



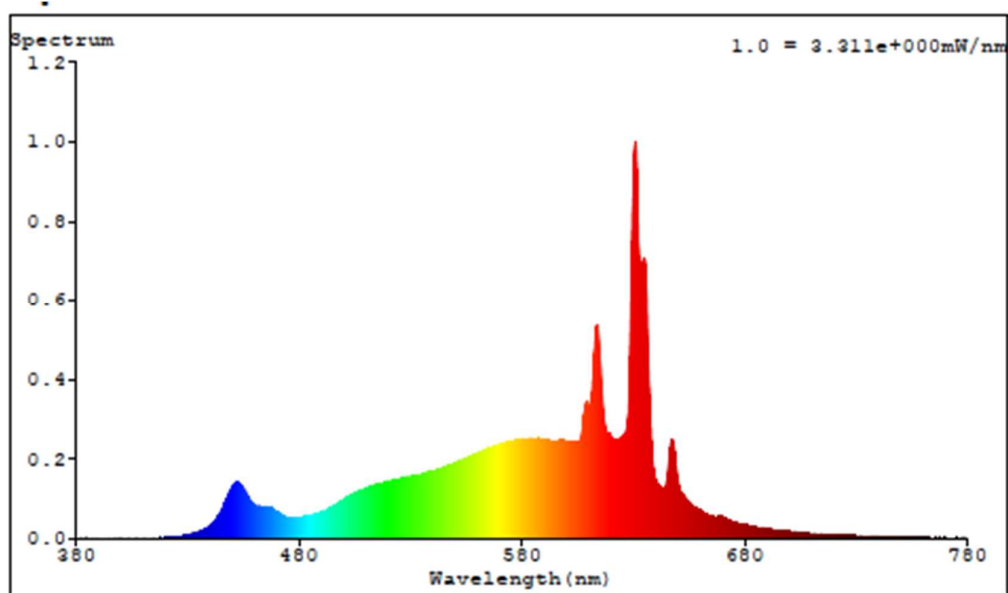
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Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0028	480	0.1704	580	0.8233	680	0.1151	780	0.0070
385	0.0000	485	0.1951	585	0.8260	685	0.0965		
390	0.0000	490	0.2212	590	0.8232	690	0.0834		
395	0.0000	495	0.2677	595	0.8116	695	0.0708		
400	0.0002	500	0.3249	600	0.8052	700	0.0617		
405	0.0000	505	0.3734	605	0.8014	705	0.0507		
410	0.0023	510	0.4162	610	1.0900	710	0.0414		
415	0.0042	515	0.4548	615	1.4520	715	0.0359		
420	0.0080	520	0.4757	620	0.8517	720	0.0313		
425	0.0161	525	0.4940	625	0.8442	725	0.0258		
430	0.0298	530	0.5144	630	3.0130	730	0.0219		
435	0.0588	535	0.5358	635	2.3240	735	0.0181		
440	0.1078	540	0.5598	640	0.4895	740	0.0161		
445	0.2273	545	0.5900	645	0.4776	745	0.0149		
450	0.4317	550	0.6245	650	0.4756	750	0.0117		
455	0.4154	555	0.6715	655	0.3043	755	0.0111		
460	0.2844	560	0.7066	660	0.2394	760	0.0082		
465	0.2626	565	0.7542	665	0.1843	765	0.0079		
470	0.2287	570	0.7856	670	0.1851	770	0.0070		
475	0.1755	575	0.8126	675	0.1375	775	0.0085		



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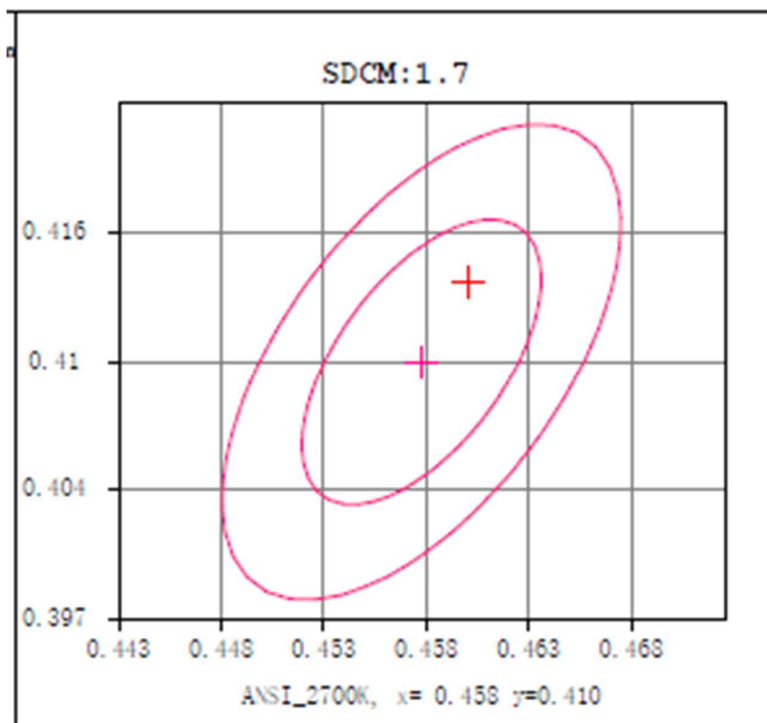
Test Condition: Integrating Sphere Testing (Middle-Output)

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
0241220-12-003	N/A	2723	92.5	0.4601	0.4140	0.2611	0.5287

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vdc)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
0241220-12-003	N/A	5.0	238.8	1.19	/	105.41	88.58



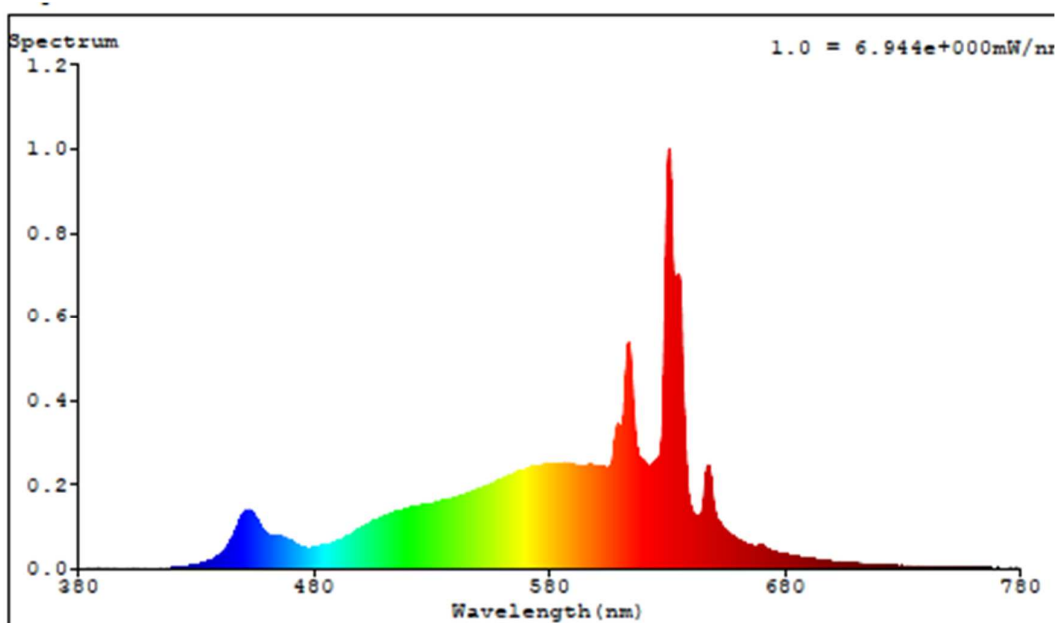
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Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0014	480	0.3536	580	1.7130	680	0.2355	780	0.0108
385	0.0036	485	0.3968	585	1.7390	685	0.1994		
390	0.0010	490	0.4567	590	1.7140	690	0.1692		
395	0.0016	495	0.5626	595	1.6890	695	0.1489		
400	0.0025	500	0.6777	600	1.6870	700	0.1243		
405	0.0015	505	0.7833	605	1.6700	705	0.1012		
410	0.0038	510	0.8710	610	2.2900	710	0.0928		
415	0.0099	515	0.9465	615	3.0390	715	0.0769		
420	0.0204	520	0.9892	620	1.7830	720	0.0655		
425	0.0378	525	1.0390	625	1.7670	725	0.0542		
430	0.0728	530	1.0770	630	6.3030	730	0.0445		
435	0.1269	535	1.1270	635	4.8370	735	0.0386		
440	0.2322	540	1.1760	640	1.0170	740	0.0339		
445	0.4989	545	1.2310	645	0.9878	745	0.0269		
450	0.9140	550	1.3160	650	0.9892	750	0.0256		
455	0.8699	555	1.3950	655	0.6359	755	0.0234		
460	0.5789	560	1.4790	660	0.4930	760	0.0193		
465	0.5451	565	1.5700	665	0.3916	765	0.0197		
470	0.4670	570	1.6400	670	0.3829	770	0.0110		
475	0.3623	575	1.6940	675	0.2879	775	0.0130		



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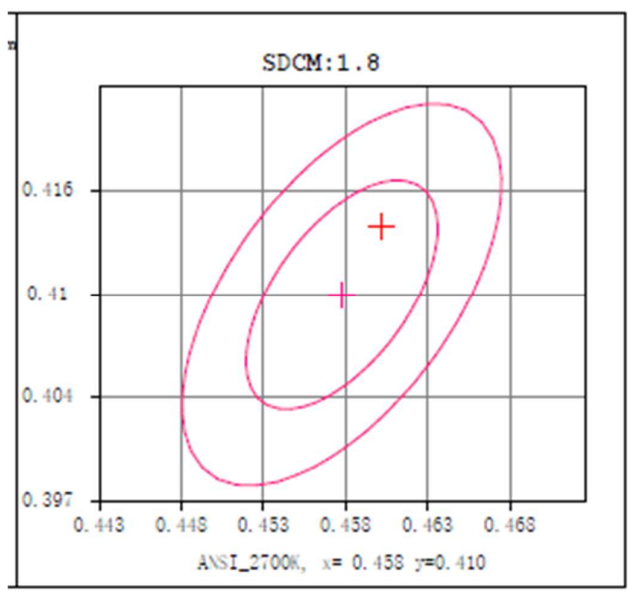
Test Condition: Integrating Sphere Testing (HIGH-Output)

Photometric Measurements at 25°C

Intertek Sample No.	Base Orientation	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
0241220-12-003	N/A	2724	92.4	0.4602	0.4142	0.2611	0.5288

Photometric and Electrical Measurements at 25°C

Intertek Sample No.	Base Orientation	Input Voltage (Vdc)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
0241220-12-003	N/A	5.0	435.5	2.19	/	214.08	97.75



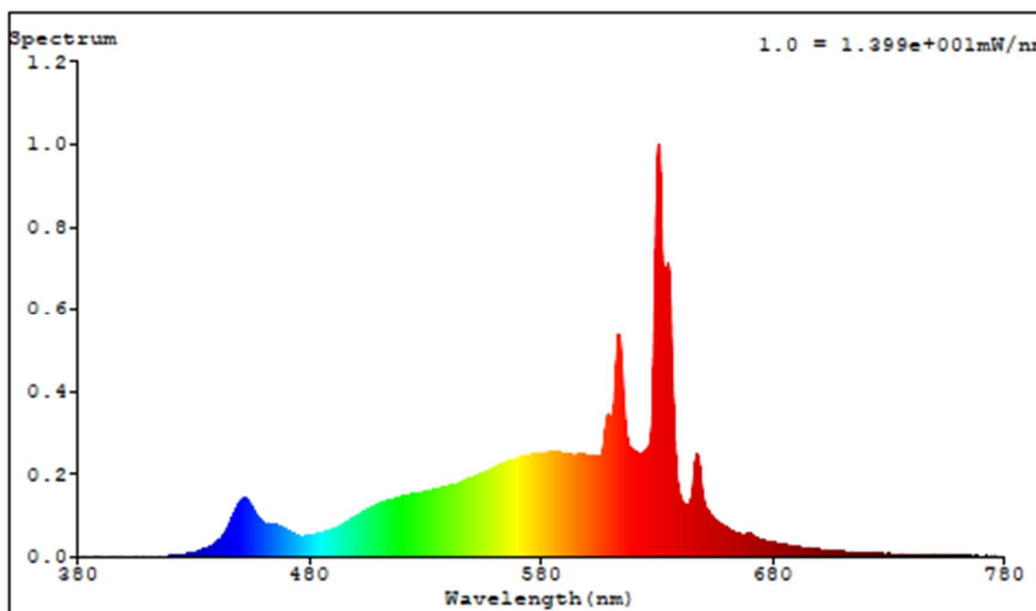
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Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0056	480	0.7145	580	3.4750	680	0.4841	780	0.0249
385	0.0115	485	0.8055	585	3.5310	685	0.4170		
390	0.0077	490	0.9249	590	3.4930	690	0.3493		
395	0.0025	495	1.1390	595	3.4400	695	0.3032		
400	0.0055	500	1.3680	600	3.4170	700	0.2529		
405	0.0072	505	1.5960	605	3.4000	705	0.2144		
410	0.0056	510	1.7720	610	4.6250	710	0.1857		
415	0.0232	515	1.9070	615	6.1750	715	0.1513		
420	0.0403	520	2.0280	620	3.6070	720	0.1329		
425	0.0810	525	2.1050	625	3.5920	725	0.1136		
430	0.1476	530	2.1910	630	12.7200	730	0.1054		
435	0.2706	535	2.2870	635	9.8330	735	0.0757		
440	0.4937	540	2.3990	640	2.0840	740	0.0615		
445	1.0370	545	2.5130	645	2.0220	745	0.0587		
450	1.8610	550	2.6800	650	2.0120	750	0.0547		
455	1.7050	555	2.8470	655	1.2690	755	0.0426		
460	1.1630	560	3.0440	660	1.0020	760	0.0374		
465	1.0720	565	3.2110	665	0.7844	765	0.0351		
470	0.9150	570	3.3340	670	0.7706	770	0.0301		
475	0.7099	575	3.4500	675	0.5886	775	0.0229		



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Product Picture (not to scale)



External view

Attachment: None

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