

Test Report

Visual Comfort & Co.

TEST REPORT

SCOPE OF WORK

< LED PERFORMANCE TESTING -[SLTB53227XX]>

REPORT NUMBER

2501B0461SHA-007

ISSUE DATE

2025-01-08

[REVISED DATE]

[None]

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Test Report

Report No. 2501B0461SHA-007

Date: 2025-01-08

TEST OF Tapa Short Accent Rechargeable Table Lamp

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 SLTB53227XX. The sample was received by Intertek on December 20, 2024, in undamaged condition, and one sample was tested as received. The sample designations was 0241220-12-007.

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.:	SLTB53227XX
Product Description:	Tepa Short Accent Rechargeable Table Lamp
LED Model No.:	DTG-AT03a-0220-05-02-B0001-230701
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)	205.73	49.10	101.97	205.61
Input Power(W)	2.09	0.48	0.97	2.07
Lumen Efficacy(lm/w)	98.44	102.29	105.12	99.33

Criteria	Integrating Sphere (LOW-Output)	Integrating Sphere (MIDDLE-Output)	Integrating Sphere (HIGH-Output)
Correlated Color Temperature(K)	2716	2719	2720
Color Reding Index-Ra()	92.7	92.5	92.5
Color Reding Index-R9()	57.6	57.4	57.2
Duv()	0.00108	0.00118	0.00124
Chromaticity Coordinate(x)	0.4604	0.4604	0.4603
Chromaticity Coordinate(y)	0.4137	0.4139	0.4141
Chromaticity Coordinate(u')	0.2615	0.2613	0.2612
Chromaticity Coordinate(v')	0.5286	0.5287	0.5287

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)
0241220-12-007	N/A	5.04	412.8	2.09	/	205.73	98.44

Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens (lm)	Zonal Luminaire Density (%)
0-30	18.15	8.82
0-40	56.27	27.4
0-60	131.9	64.1
60-90	47.6	23.2
70-100	28.0	13.6
90-120	9.4	4.5
0-90	179.5	87.3
90-180	26.23	12.7
0-180	205.73	100

Beam Angle

	Horizontal Spread (°)	Vertical Spread (°)
Beam (50%)	360	358.6
Average Beam Angle (50%): 359.3 °		

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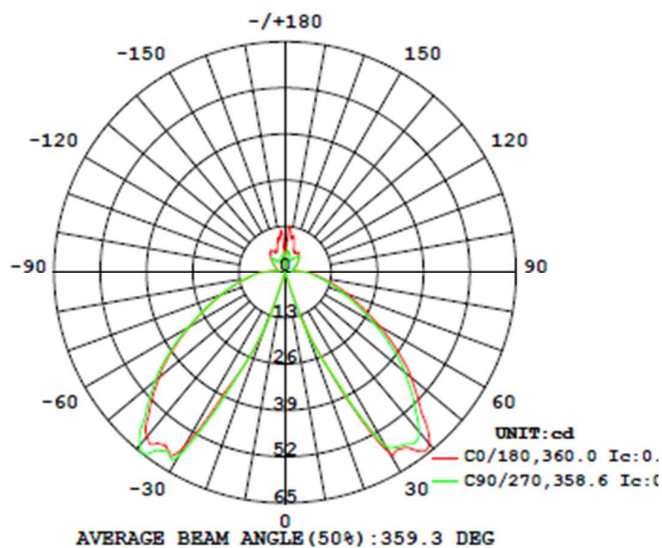
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Intensity (Candlepower) Summary at 25°C – Candelas

C \ G(°)	0	22.5	45	67.5	90
0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0
15	0.5	0.7	0.4	0.2	0.1
20	19.2	20.6	20.9	20.2	16.7
25	40.7	41.8	40.2	37.8	33.1
30	54.8	55.0	55.0	55.0	54.5
35	65.8	66.1	65.2	62.2	59.2
40	59.5	59.2	58.6	58.0	59.0
45	51.4	51.4	51.2	49.5	49.5
50	44.8	44.4	44.3	42.7	42.8
55	37.0	36.4	36.6	35.5	36.0
60	29.7	29.0	29.0	28.3	28.8
65	23.7	23.0	22.7	22.4	22.6
70	18.3	17.7	17.3	17.3	17.6
75	13.7	13.3	12.8	12.9	13.2
80	10.6	10.2	9.9	10.1	10.1
85	7.8	7.6	7.4	7.7	7.7
90	5.5	5.4	5.3	5.4	5.5

Luminous Intensity Distribution Diagram

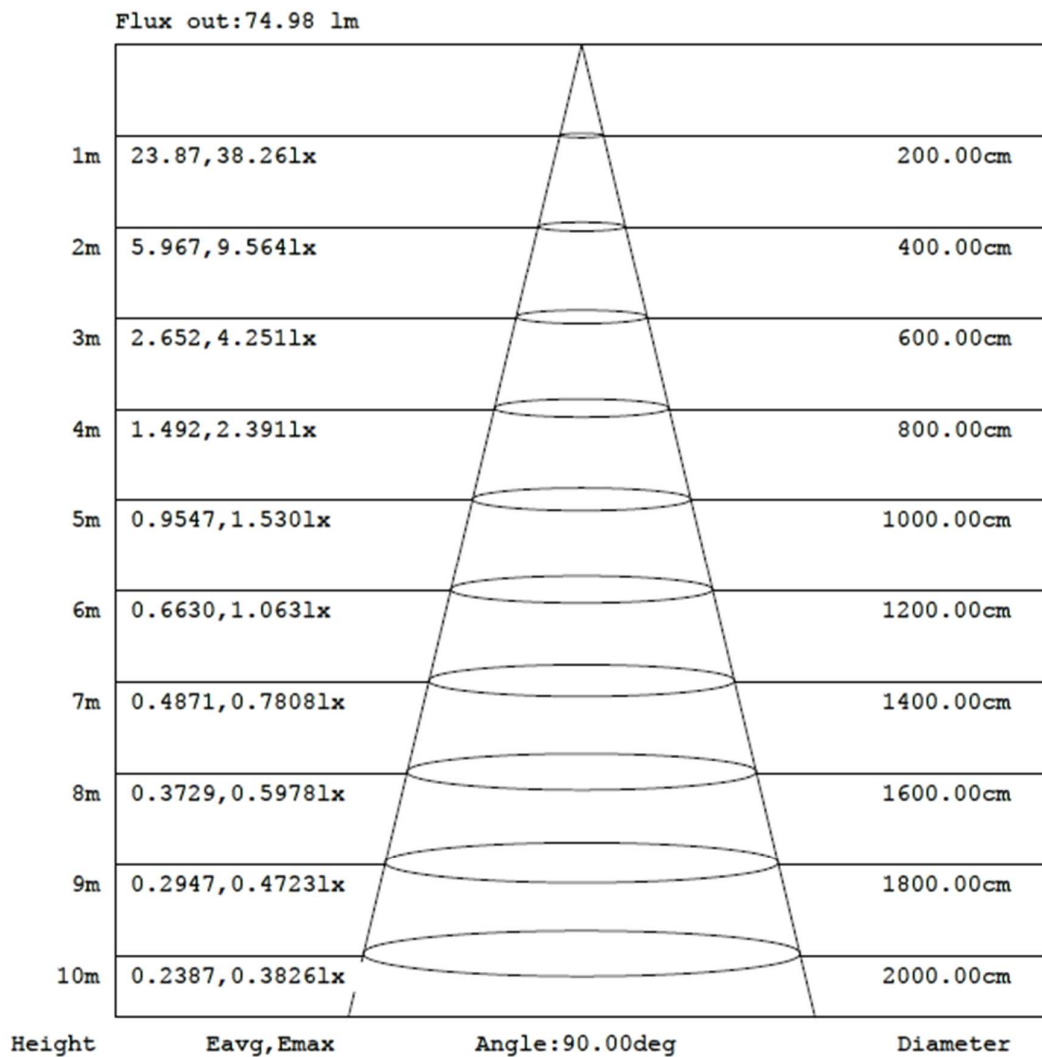


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Mount Height: 10 m
Illuminance - AAI Figure



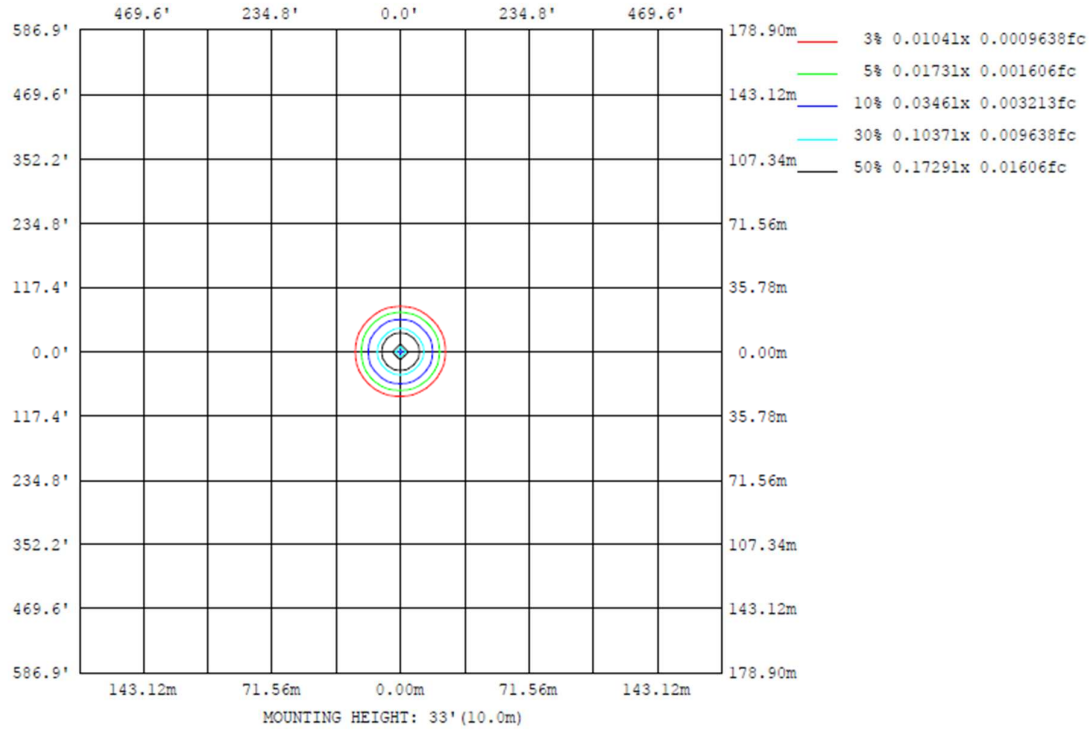
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Mount Height: 10 m
Illuminance – ISOLUX DIAGRAM



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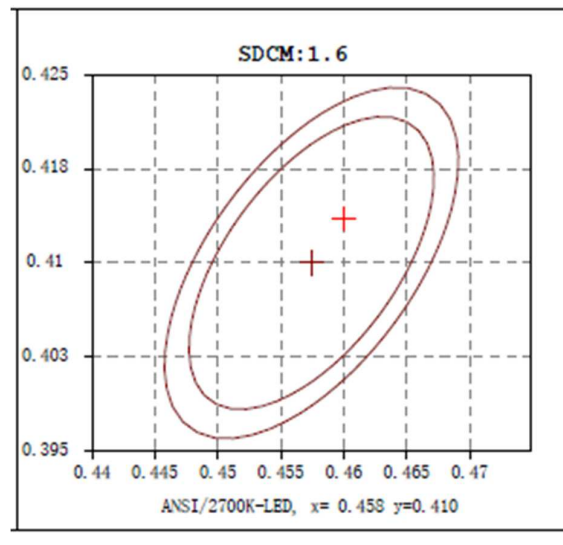
Test Condition: Integrating Sphere Testing (LOW-Output)

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')
0241220-12-007	N/A	2716	92.7	0.4604	0.4137	0.2615	0.5286

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)
0241220-12-007	N/A	5.06	107.1	0.54	/	49.10	102.29



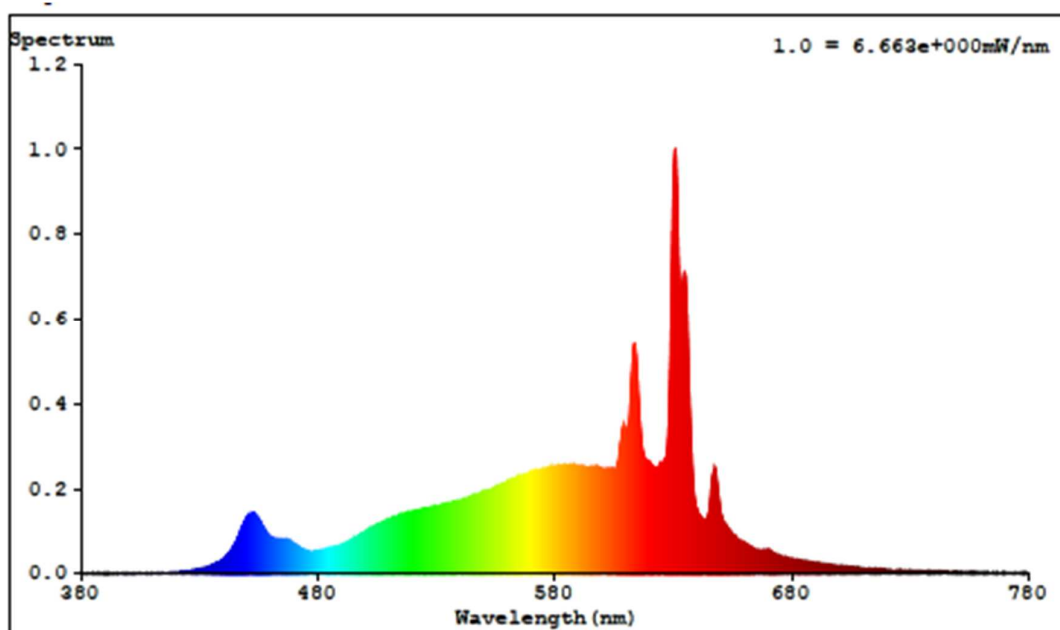
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Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0000	480	0.1685	580	0.7994	680	0.1103	780	0.0049
385	0.0000	485	0.1899	585	0.8088	685	0.0920		
390	0.0007	490	0.2180	590	0.8059	690	0.0794		
395	0.0018	495	0.2620	595	0.7925	695	0.0664		
400	0.0032	500	0.3167	600	0.7940	700	0.0583		
405	0.0017	505	0.3642	605	0.7873	705	0.0476		
410	0.0000	510	0.4070	610	1.0610	710	0.0414		
415	0.0060	515	0.4374	615	1.4180	715	0.0340		
420	0.0092	520	0.4618	620	0.8344	720	0.0295		
425	0.0168	525	0.4881	625	0.8261	725	0.0261		
430	0.0323	530	0.5046	630	2.9370	730	0.0224		
435	0.0560	535	0.5180	635	2.2710	735	0.0173		
440	0.1037	540	0.5441	640	0.4763	740	0.0162		
445	0.2162	545	0.5758	645	0.4661	745	0.0124		
450	0.4127	550	0.6081	650	0.4654	750	0.0107		
455	0.4169	555	0.6510	655	0.2922	755	0.0097		
460	0.2793	560	0.6878	660	0.2322	760	0.0099		
465	0.2572	565	0.7255	665	0.1822	765	0.0066		
470	0.2249	570	0.7653	670	0.1747	770	0.0063		
475	0.1740	575	0.7828	675	0.1337	775	0.0039		



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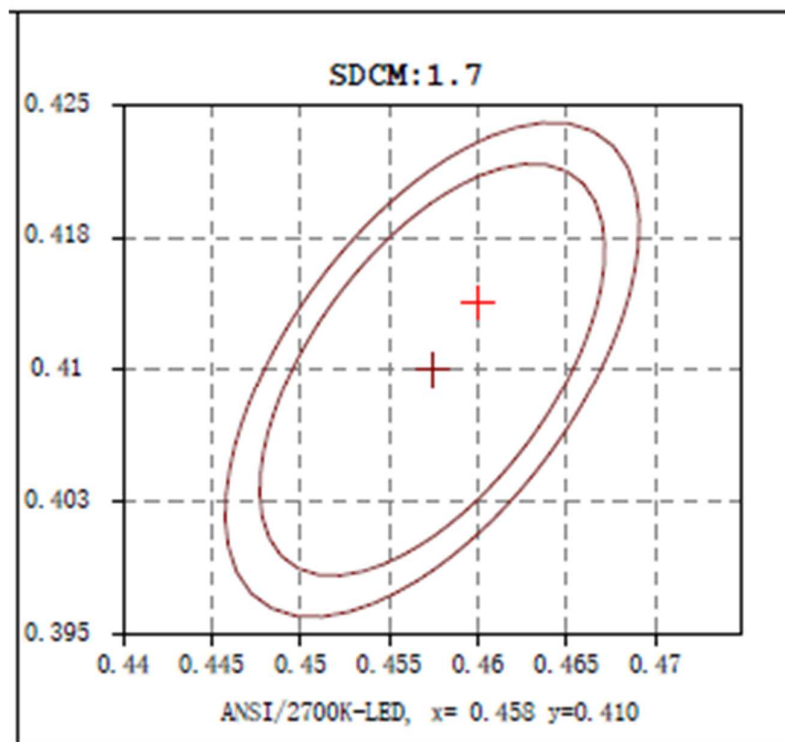
Test Condition: Integrating Sphere Testing (Middle-Output)

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')
0241220-12-007	N/A	2719	92.5	0.4604	0.4139	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)
0241220-12-007	N/A	5.01	193.8	0.97	/	101.97	105.12



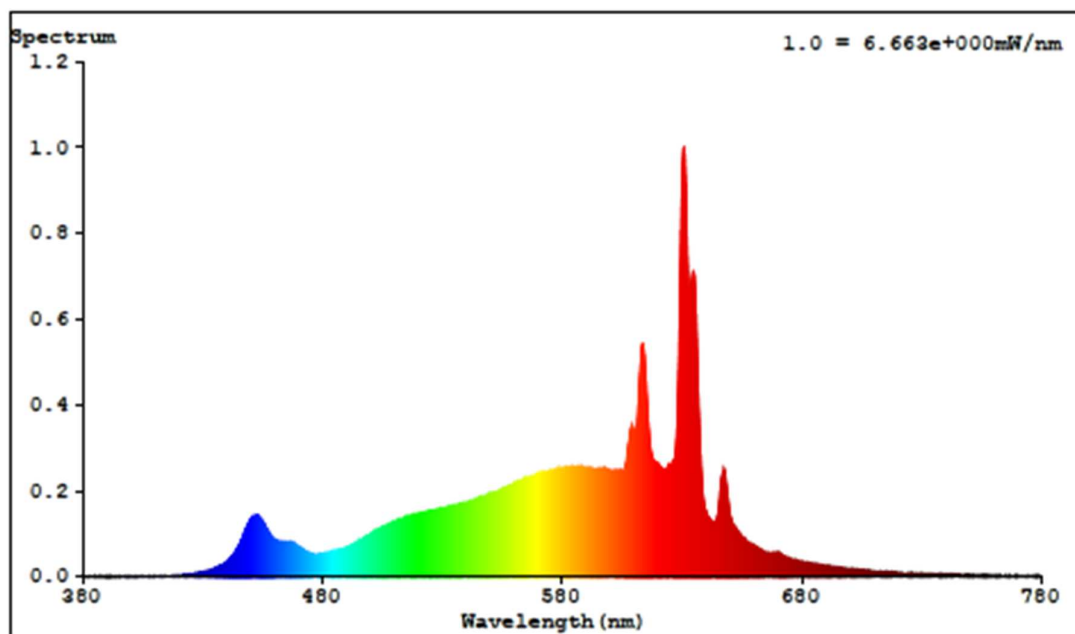
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Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0096	480	0.3462	580	1.6680	680	0.2298	780	0.0084
385	0.0077	485	0.3926	585	1.6890	685	0.1922		
390	0.0031	490	0.4476	590	1.6650	690	0.1609		
395	0.0013	495	0.5487	595	1.6540	695	0.1406		
400	0.0052	500	0.6517	600	1.6430	700	0.1200		
405	0.0033	505	0.7541	605	1.6310	705	0.0982		
410	0.0037	510	0.8371	610	2.2100	710	0.0849		
415	0.0107	515	0.9134	615	2.9510	715	0.0703		
420	0.0208	520	0.9681	620	1.7390	720	0.0614		
425	0.0383	525	1.0100	625	1.7240	725	0.0497		
430	0.0679	530	1.0470	630	6.0640	730	0.0462		
435	0.1203	535	1.0920	635	4.6970	735	0.0375		
440	0.2239	540	1.1350	640	0.9847	740	0.0334		
445	0.4570	545	1.2060	645	0.9652	745	0.0288		
450	0.8690	550	1.2750	650	0.9666	750	0.0244		
455	0.8391	555	1.3460	655	0.6192	755	0.0236		
460	0.5692	560	1.4380	660	0.4810	760	0.0201		
465	0.5220	565	1.4980	665	0.3757	765	0.0156		
470	0.4586	570	1.5870	670	0.3706	770	0.0128		
475	0.3521	575	1.6360	675	0.2764	775	0.0141		



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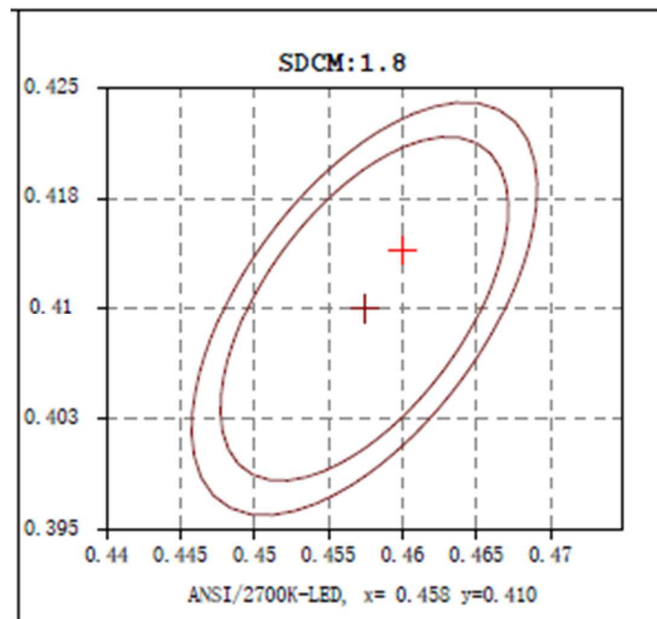
Test Condition: Integrating Sphere Testing (HIGH-Output)

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')
0241220-12-007	N/A	2720	92.5	0.4603	0.4141	0.2612	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)
0241220-12-007	N/A	5.02	412.5	2.07	/	205.61	99.33



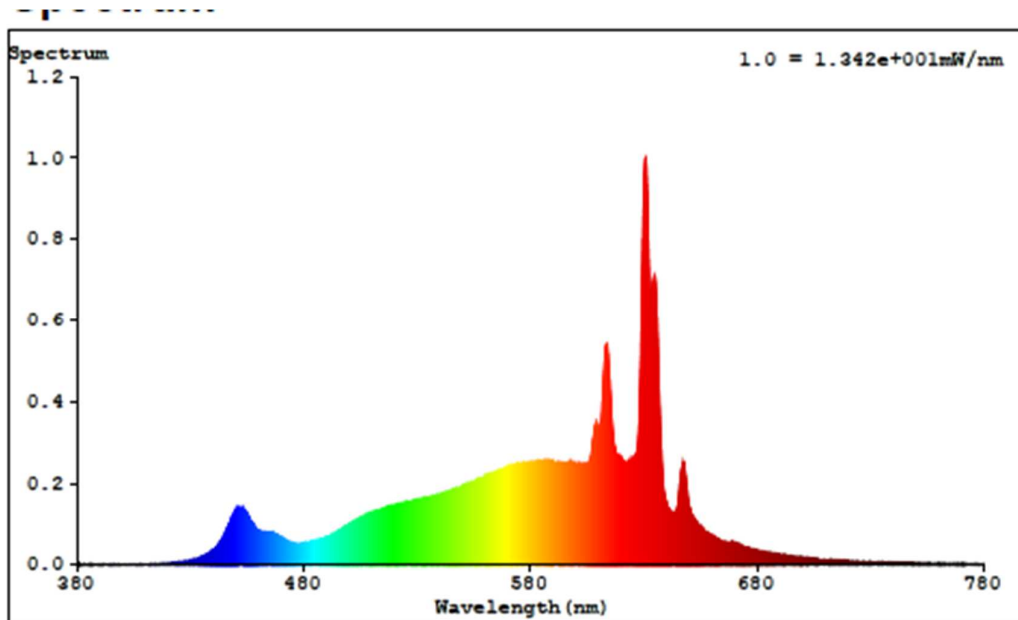
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Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
380	0.0018	480	0.6971	580	3.3290	680	0.4701	780	0.0198
385	0.0000	485	0.7890	585	3.3810	685	0.3857		
390	0.0039	490	0.9069	590	3.3820	690	0.3300		
395	0.0043	495	1.0840	595	3.3170	695	0.2814		
400	0.0006	500	1.3300	600	3.3030	700	0.2304		
405	0.0069	505	1.5300	605	3.2840	705	0.2004		
410	0.0116	510	1.7020	610	4.4200	710	0.1656		
415	0.0151	515	1.8350	615	5.9620	715	0.1442		
420	0.0418	520	1.9370	620	3.5020	720	0.1332		
425	0.0813	525	2.0150	625	3.4680	725	0.1048		
430	0.1468	530	2.1140	630	12.1600	730	0.0856		
435	0.2537	535	2.1990	635	9.4380	735	0.0817		
440	0.4722	540	2.2970	640	2.0030	740	0.0653		
445	0.9771	545	2.4310	645	1.9440	745	0.0514		
450	1.7660	550	2.5780	650	1.9210	750	0.0467		
455	1.6630	555	2.7150	655	1.2510	755	0.0442		
460	1.1280	560	2.9020	660	0.9585	760	0.0379		
465	1.0480	565	3.0340	665	0.7567	765	0.0265		
470	0.9031	570	3.1730	670	0.7361	770	0.0278		
475	0.6995	575	3.3040	675	0.5527	775	0.0264		



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Product Picture (not to scale)



External view

Attachment: None

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