TEST REPORT

For

P.Q.L., Inc.

2285 Ward Avenue / Simi Valley, CA 93065

Model Number:	LA22P205CU[K,W]-2700K LA22P205CU[K,W]-3000K LA22P205CU[K,W]-3500K LA22P205CU[K,W]-4000K LA22P205CU[K,W]-5000K	
Report Type:	Electrical, Photometric and ISTMT tests according to the following standards and show the compliance to DLC Technical Requirements for LED Lighting SSL V6.0	
Standards:	ANSI/IES LM-79-19: Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products ANSI C82.77-10-2014: Harmonic Emission Limits – Related Power Quality Requirements for Lighting ANSI/UL 1598-2008: Standard for Safety of Luminaires CIE 190:2010 Calculation and presentation of unified glare rating tables for indoor lighting luminaires IES TM-30-18★: IES Method for Evaluating Light Source Color Rendition	
Project Engineer:	Allen Pan	Allen Pan
Report Number:	RKSB260312004-10	
Sample Size:	One sample was received on 2026-03-12 and used for testing.	
Test Date:	2026-03-13 to 2026-03-31	
Report Date:	2026-04-07	
Reviewed By:	Seven Xia/ EE Engineer	Seven.Xia
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan). No. 248 Chenghu Road, Kunshan, Jiangsu, People's Republic of China Tel: +86-0512-86175000 Fax: +86-0512-88934268	

1. Product Information and Description

Product Primary Use:	Direct Linear Ambient Luminaires
Voltage and Frequency:	120-277VAC, 60Hz
LED Source Manufacturer:	Seoul Semiconductor Co., LTD
LED Source Model:	STW8A2PD-D1-RNP
Driver Model:	SIF30-I0450 120-277 W D1 F
Luminaire length:	2ft
Auxiliary Ballast Model:	NA
Auxiliary Housing Model:	NA
Field Adjustable Color Temperature:	Yes
Field-Adjustable Light Output:	Yes

Family Declaration

Test Model	Covered Models	Variations	Detail
LA22P205CUW-2700K	LA22P205CUK-2700K	Lamp Color	"W" mean "White", "K" means "Black" Except for the different color of the lamp, LA22P205CUW-2700K and LA22P205CUK-2700K are identical in every other way

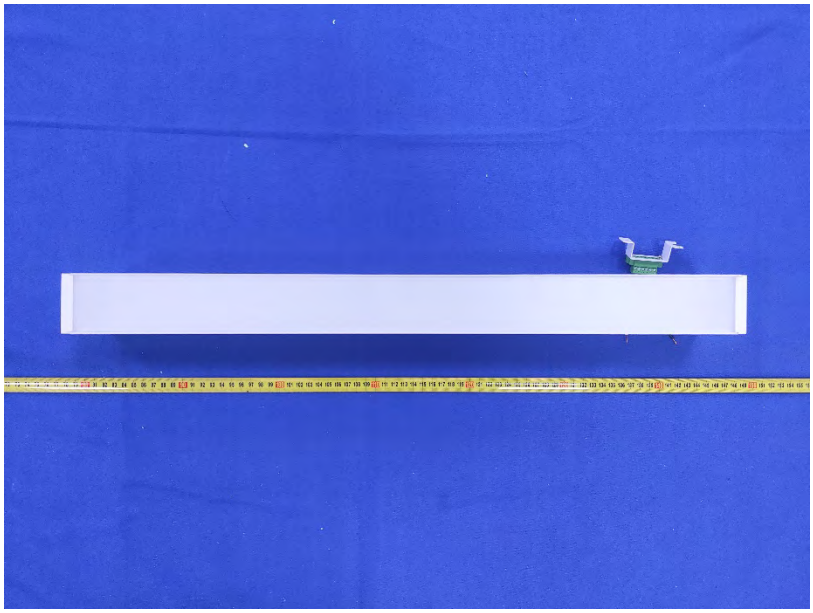
2. Product Rated Values#

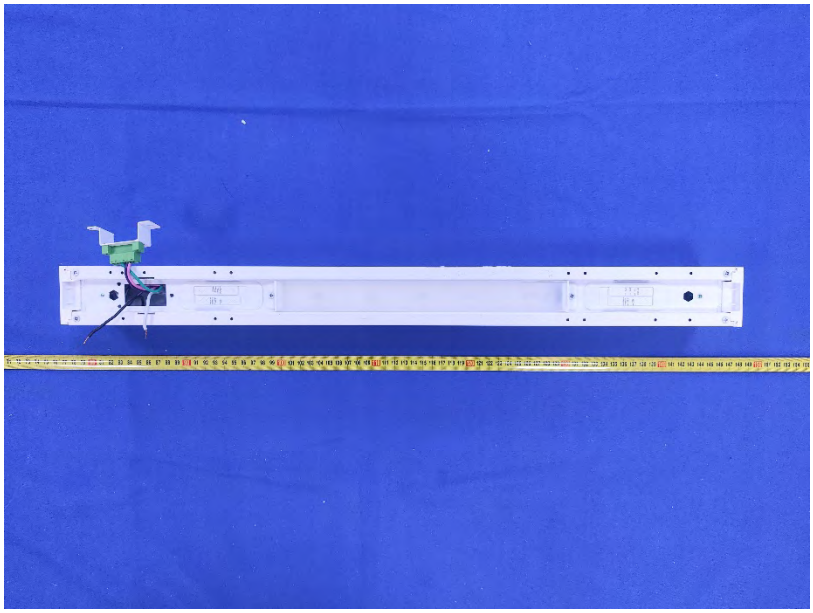
Test Model	CCT(K)	Light Output (lm)	Power(W)	Luminous Efficacy (lm/W)
LA22P205CUW-2700K	2700	2500	20	125
		2016	16	126
		1524	12	127
		1280	10	128
LA22P205CUW-3000K	3000	2500	20	125
		2016	16	126
		1524	12	127
		1280	10	128
LA22P205CUW-3500K	3500	2500	20	125
		2016	16	126
		1524	12	127
		1280	10	128
LA22P205CUW-4000K	4000	2500	20	125
		2016	16	126
		1524	12	127
		1280	10	128
LA22P205CUW-5000K	5000	2600	20	130
		2096	16	131
		1584	12	132
		1330	10	133

3. Test List

Test Model	Total Power(W)	Control Setting		Test Item			
		CCT(K)	Power(W)	Goniophotometer Test	Integrating Sphere Test	THDi and PF Test	In-Situ Temperature Measurement Test
LA22P205CUW-2700K	20	2700	100% down light	Yes	Yes	Yes	Yes
			50% up light+50% down light	Yes	Yes	Yes	NA
			30% up light+70% down light	Yes	Yes	Yes	NA
	16		50% up light+50% down light	NA	Yes	Yes	NA
	12		50% up light+50% down light	NA	Yes	Yes	NA
	10		50% up light+50% down light	NA	Yes	Yes	NA
LA22P205CUW-3500K	20	3500	100% down light	NA	Yes	Yes	NA
			50% up light+50% down light	NA	Yes	Yes	NA
			30% up light+70% down light	NA	Yes	Yes	NA
LA22P205CUW-5000K	20	5000	100% down light	NA	Yes	Yes	NA
			50% up light+50% down light	NA	Yes	Yes	NA
			30% up light+70% down light	NA	Yes	Yes	NA

4. Product Photo





LED Driver Photo

5. Test Result

Test Model: LA22P205CUW
Control setting: 2700K & 20W 100% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2595.2	≥750	≥675	Pass
Power(W)	20.69	None.	None.	N/A
Total Efficacy(lm/W)	125.41	≥125	≥121.25	Pass
CCT(K)	2599	2580~2870	No tolerances	Pass
Duv	-0.0003	-0.006~0.006	No tolerances	Pass
IES R_f	84	70	69	Pass
IES R_g	98	89	88	
IES Rcs,h1	-11%	-12%~23%	-13%~24%	
R_a	82.5	≥80	≥79	
R_9	13	≥0	≥-1	

Goniophotometer Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2595.7	≥750	≥675	Pass
Power(W)	20.81	None.	None.	N/A
Total Efficacy(lm/W)	124.78	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	80.06%	0-60°≥40%	0-60°≥37%	Pass

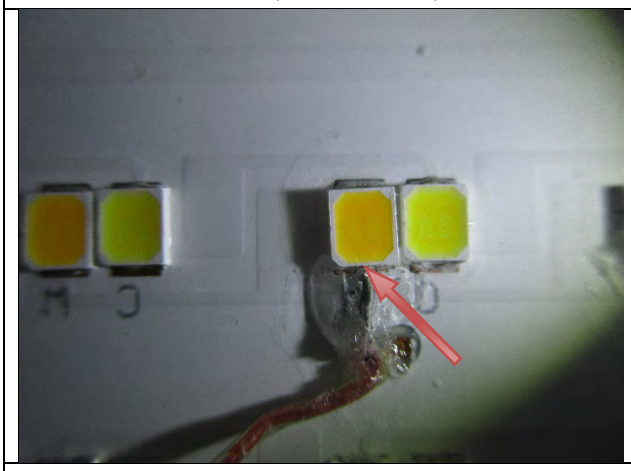
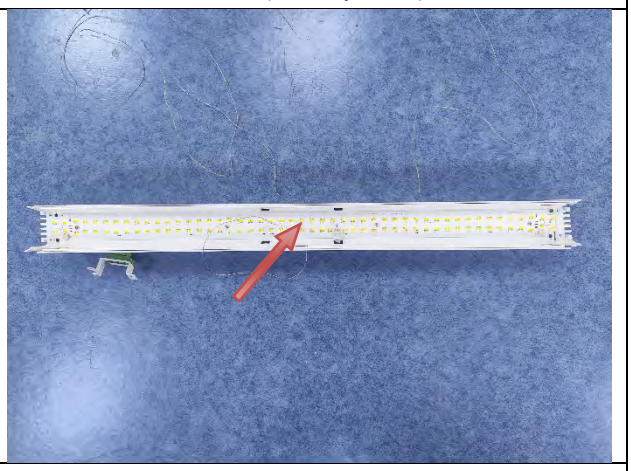
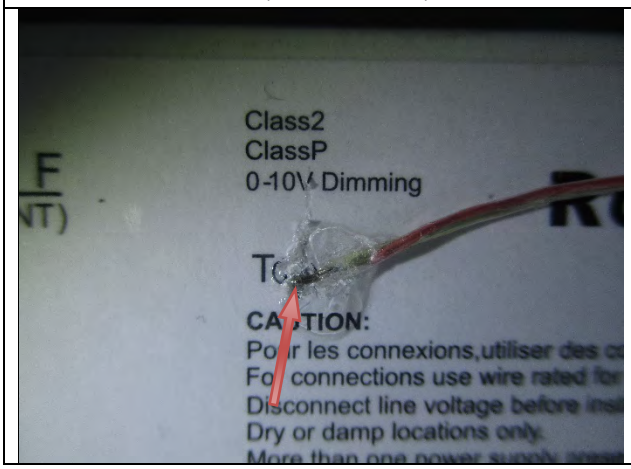
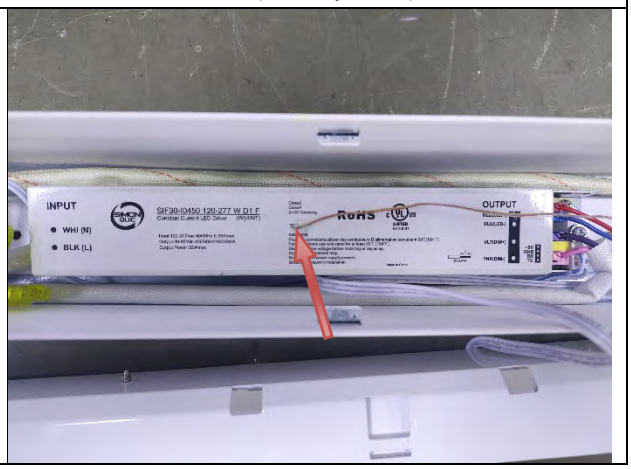
Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9946	≥0.9	⩾0.87	Pass
120	THDi	5.79%	≤20%	⩽25%	Pass
277	Power Factor	0.954	≥0.9	⩾0.87	Pass
277	THDi	11.51%	≤20%	⩽25%	Pass

In-Situ Temperature Measurement Test: Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
TMP_{LED}(°C)	47.2	≤105	With tolerance of ⩽ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
TMP_c(°C)	50.2	≤90	With tolerance of ⩽ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
Drive Current/Individual LED source(mA)	62.7	≤300	With +5% tolerance	Pass
L_{70} Lumen Maintenance Life (Hours)	>78000	⩾50000	None.	Pass
Color Maintenance	0.0014	≤0.004	≤0.0044	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

TMP_{LED}(Zoomed-in View)	TMP_{LED}(Bird's-eye View)
	
TMP_c(Zoomed-in View)	TMP_c(Bird's-eye View)
	

Test Data

[Integrating Sphere System]

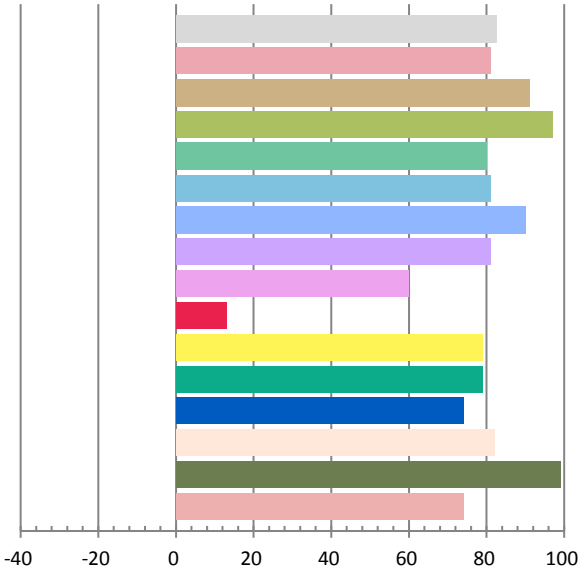
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1733	20.69	0.9946	2595.2	125.41

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.394	2599	-0.0003	0.4678	0.4114	0.2673	0.5288

Color Rendering Index

Ra			
82.5			
R1	R2	R3	R4
81	91	97	80
R5	R6	R7	R8
81	90	81	60
R9	R10	R11	R12
13	79	79	74
R13	R14	R15	
82	99	74	



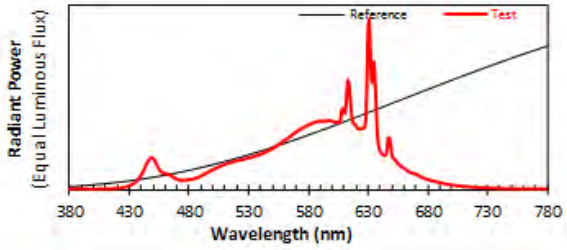
ANSI/IES TM-30-18 Color Rendition Report

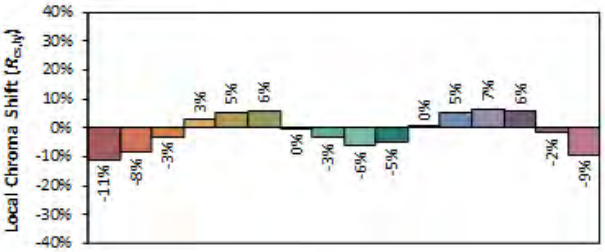
Source: User SPD

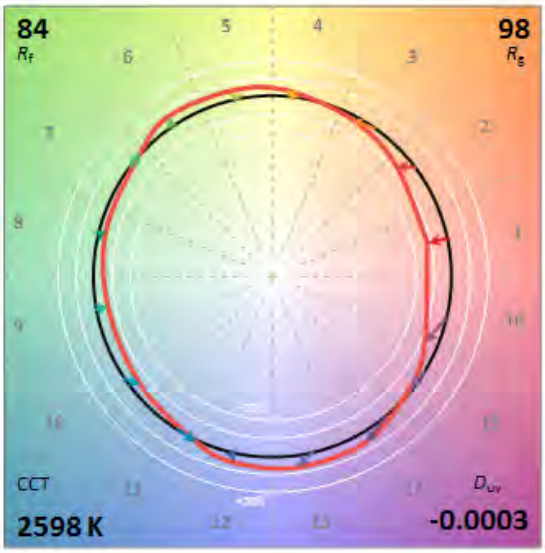
Manufacturer: P.Q.L., Inc.

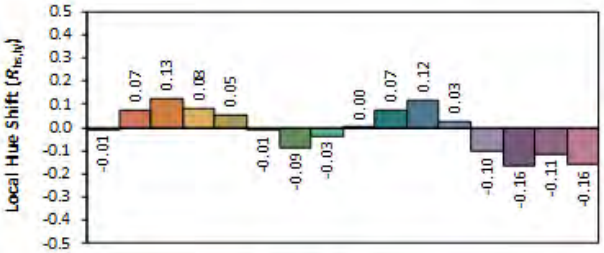
Date: 2026/3/23

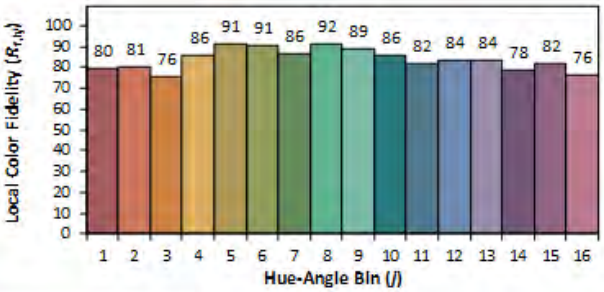
Model: LA22P205CUW-2700K

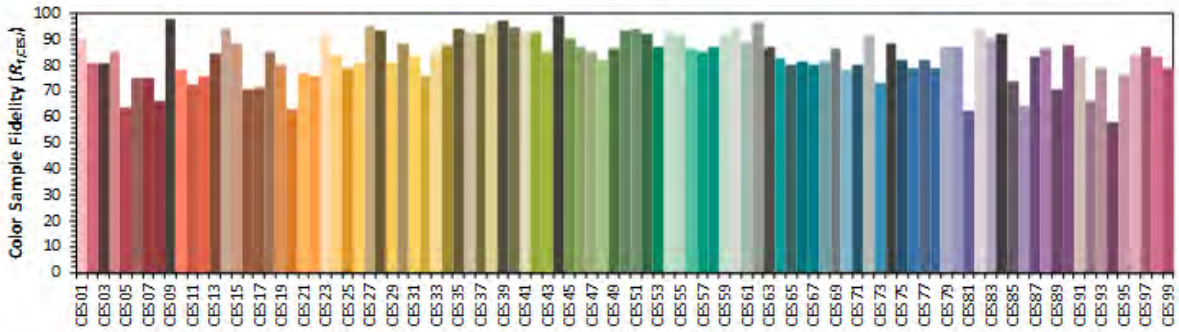












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

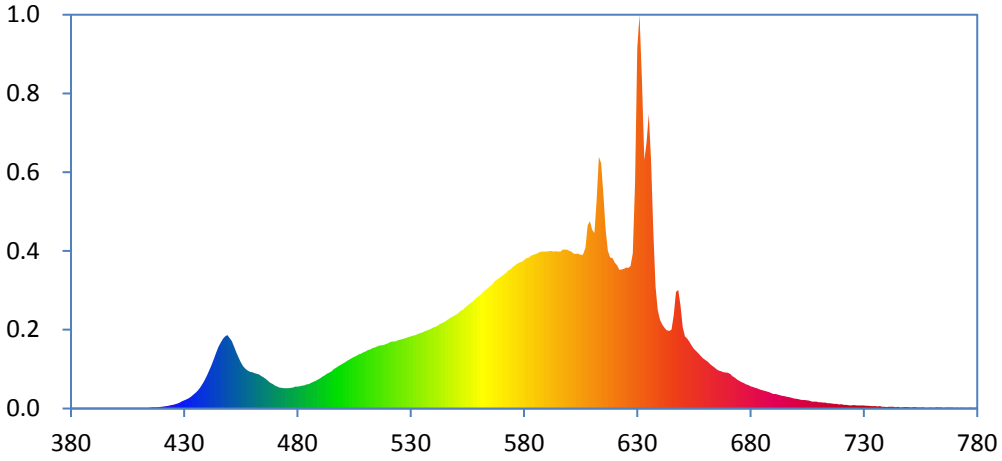
x	0.4678
y	0.4113
u'	0.2673
v'	0.5288

CIE 13.3-1995 (CRI)

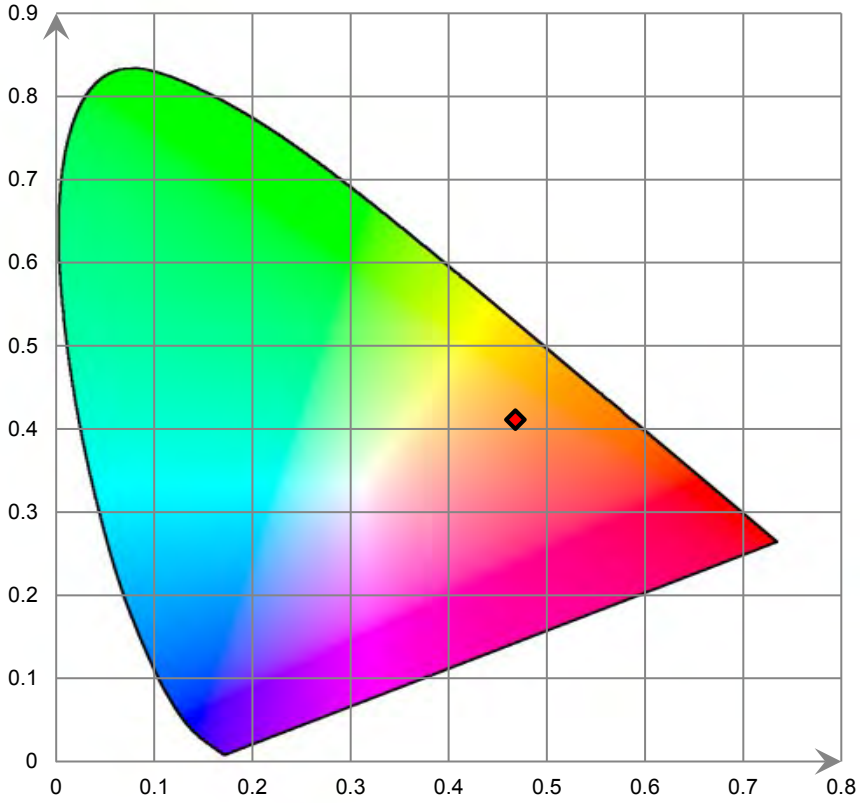
R_a	83
R_9	14

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

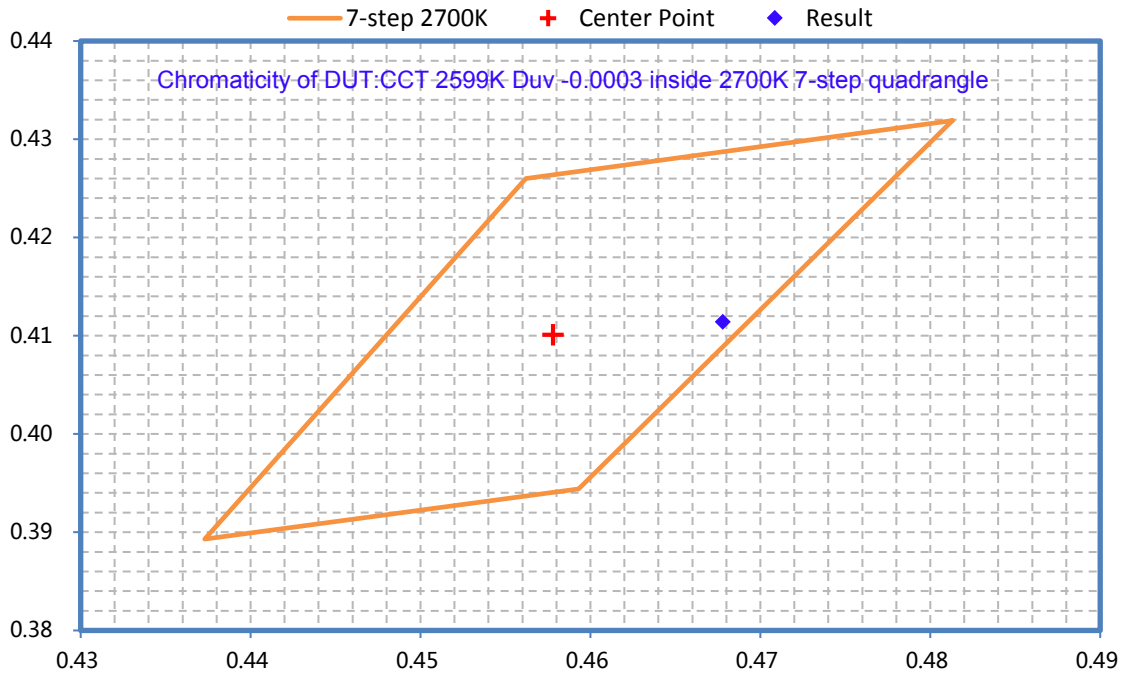
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

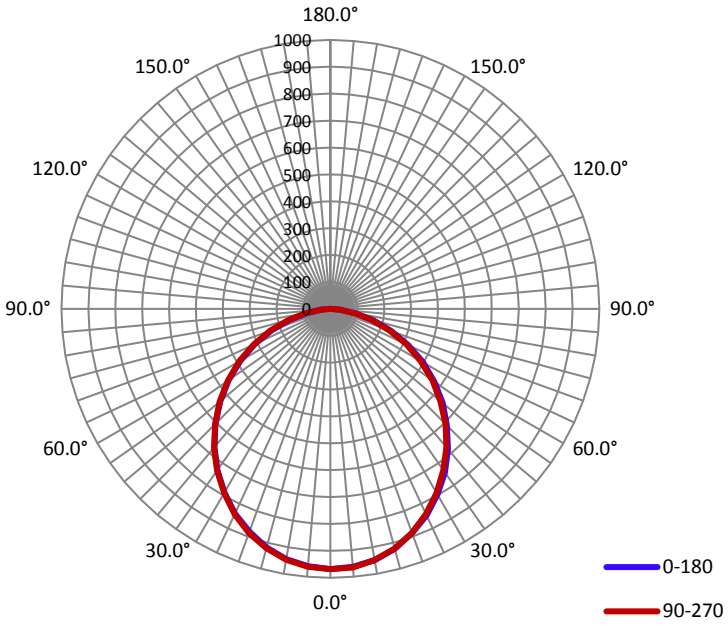
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.174	20.81	0.998

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
2595.7	124.78	969.4	1.22	1.22

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	107.7	107.2	107.1	107.1	107.3
Field Angle (10% I_{max}):	159.0	159.1	159.6	159.0	159.2

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	967.7	967.7	967.7	967.7	967.7	967.7	967.7	967.7
5.0°	962.9	962.1	962.0	963.2	964.5	962.1	962.8	962.1
10.0°	948.5	948.1	946.3	947.7	948.0	946.9	947.8	946.3
15.0°	923.7	921.6	920.0	921.3	922.3	920.1	920.8	920.2
20.0°	887.8	887.8	885.3	884.3	885.9	882.6	885.5	886.0
25.0°	846.4	848.3	841.2	840.7	842.1	840.4	844.0	843.8
30.0°	796.1	796.1	790.9	790.6	790.6	788.7	792.2	791.1
35.0°	741.6	739.7	733.0	730.1	732.6	731.5	735.0	736.1
40.0°	680.0	678.3	671.6	667.7	671.0	666.8	672.2	674.3
45.0°	612.9	613.5	605.8	601.7	605.8	600.9	605.3	609.3
50.0°	544.5	542.8	535.4	528.8	534.7	528.8	535.1	540.8
55.0°	472.4	469.3	464.3	455.4	462.7	456.2	463.3	467.3
60.0°	396.3	393.7	389.7	378.8	387.9	379.2	387.6	391.9
65.0°	318.8	316.2	312.5	302.8	310.7	303.4	310.5	315.8
70.0°	239.9	239.3	233.7	227.5	233.2	226.4	232.0	236.8
75.0°	163.3	162.6	157.7	155.6	160.3	154.9	157.2	160.4
80.0°	94.2	92.8	91.5	90.7	93.0	89.9	90.7	91.3
85.0°	37.9	37.1	36.5	34.4	34.8	33.8	34.8	36.5
90.0°	1.2	1.3	1.6	0.7	0.0	0.8	1.3	1.8
95.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	967.7	967.7	967.7	967.7	967.7	967.7	967.7	967.7
5.0°	960.8	962.0	962.7	963.3	962.7	962.7	963.1	961.0
10.0°	944.6	946.2	946.6	946.9	946.6	946.0	947.0	944.8
15.0°	918.1	919.2	919.9	918.9	921.5	919.6	921.3	919.7
20.0°	881.3	883.5	883.4	883.4	886.2	882.3	885.1	883.6
25.0°	840.4	842.8	839.3	839.1	842.4	839.1	841.4	842.3
30.0°	788.6	792.3	789.7	787.2	790.5	786.9	791.8	791.4
35.0°	732.7	736.3	731.9	731.6	734.2	729.3	733.8	734.0
40.0°	670.6	675.1	668.9	668.1	673.2	666.5	670.9	673.7
45.0°	604.5	607.6	604.0	601.9	606.3	599.3	605.3	606.3
50.0°	535.2	538.8	534.7	530.5	536.9	529.3	534.0	536.5
55.0°	462.7	466.2	461.6	457.6	465.2	455.8	461.0	464.2
60.0°	386.4	388.6	387.9	382.6	391.2	379.6	386.2	389.5
65.0°	309.9	312.6	311.7	306.2	314.7	304.3	309.5	311.6
70.0°	231.1	233.9	234.9	228.7	237.7	229.4	233.5	232.7
75.0°	155.1	159.2	159.9	156.0	163.6	155.6	158.7	157.6
80.0°	87.5	90.0	90.3	91.1	95.9	89.9	90.5	90.3
85.0°	33.3	35.1	34.8	35.1	35.7	33.6	34.3	34.7
90.0°	0.7	1.5	1.5	0.0	0.9	0.9	1.5	1.2
95.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Test Model: LA22P205CUW
Control setting: 2700K & 20W 50% up light+50% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2603.5	≥750	≥675	Pass
Power(W)	21.29	None.	None.	N/A
Total Efficacy(lm/W)	122.3	≥125	≥121.25	Pass
CCT(K)	2612	2580~2870	No tolerances	Pass
Duv	-0.00033	-0.006~0.006	No tolerances	Pass
IES R_f	84	70	69	Pass
IES R_g	98	89	88	
IES Rcs,h1	-11%	-12%~23%	-13%~24%	
R_a	82.5	≥80	≥79	
R9	13	≥0	≥-1	

Goniophotometer Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2604.4	≥750	≥675	Pass
Power(W)	21.41	None.	None.	N/A
Total Efficacy(lm/W)	121.64	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	40.83%	0-60°≥40%	0-60°≥37%	Pass

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9947	≥0.9	⩾0.87	Pass
120	THDi	5.83%	≤20%	⩽25%	Pass
277	Power Factor	0.9559	≥0.9	⩾0.87	Pass
277	THDi	11.49%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

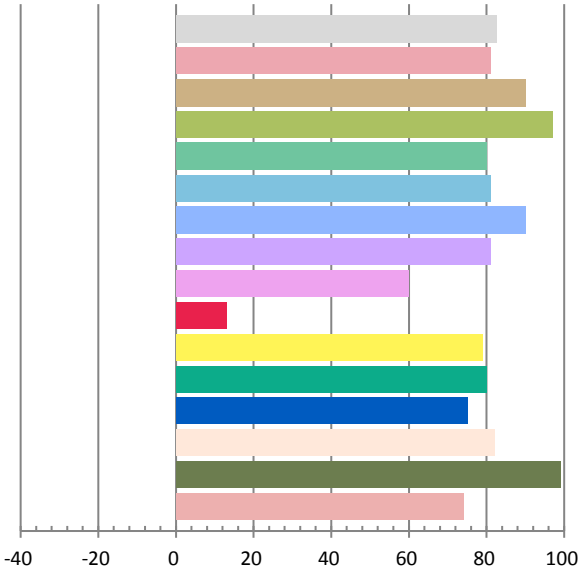
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1783	21.29	0.9947	2603.5	122.3

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.405	2612	-0.00033	0.4666	0.4111	0.2666	0.5286

Color Rendering Index

Ra			
82.5			
R1	R2	R3	R4
81	90	97	80
R5	R6	R7	R8
81	90	81	60
R9	R10	R11	R12
13	79	80	75
R13	R14	R15	
82	99	74	



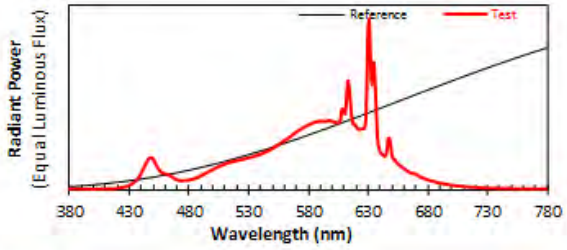
ANSI/IES TM-30-18 Color Rendition Report

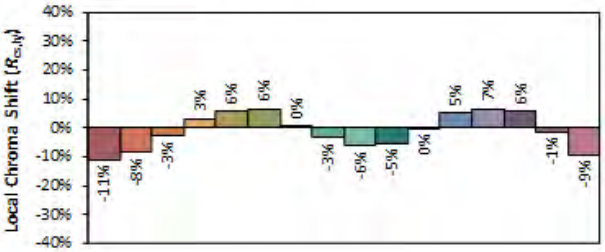
Source: User SPD

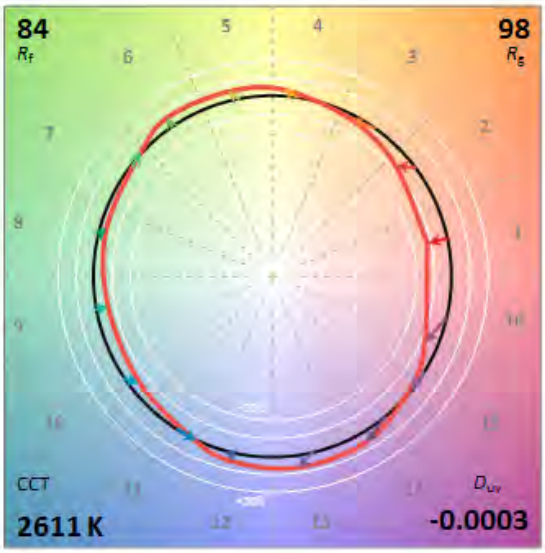
Date: 2026/3/23

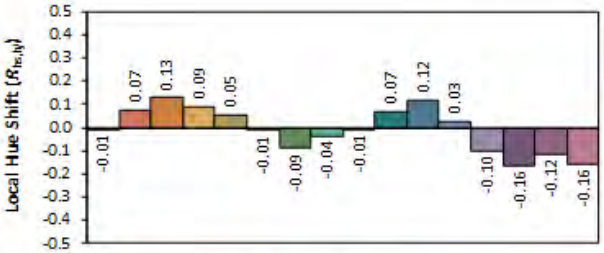
Manufacturer: P.Q.L., Inc.

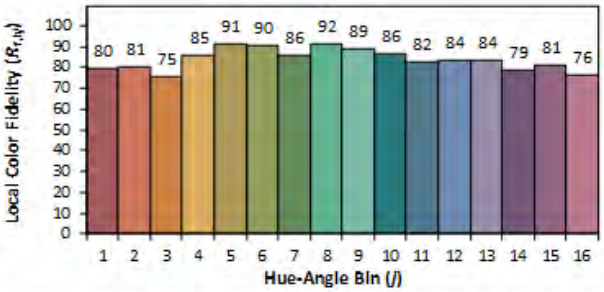
Model: LA22P205CUW-2700K

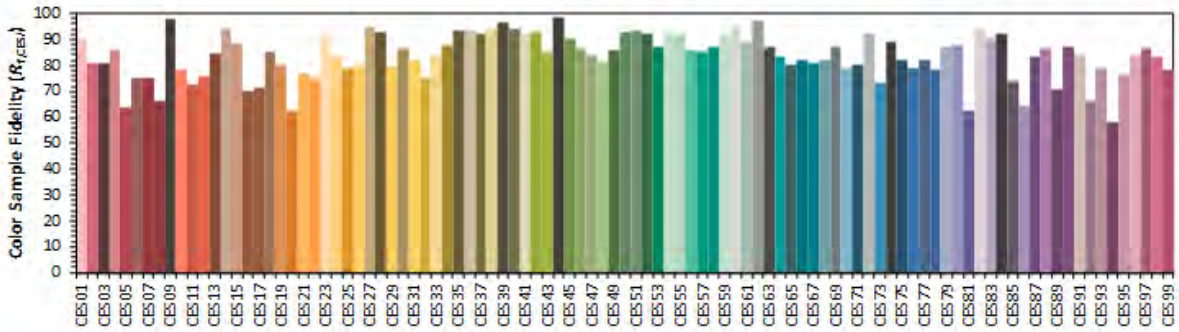












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

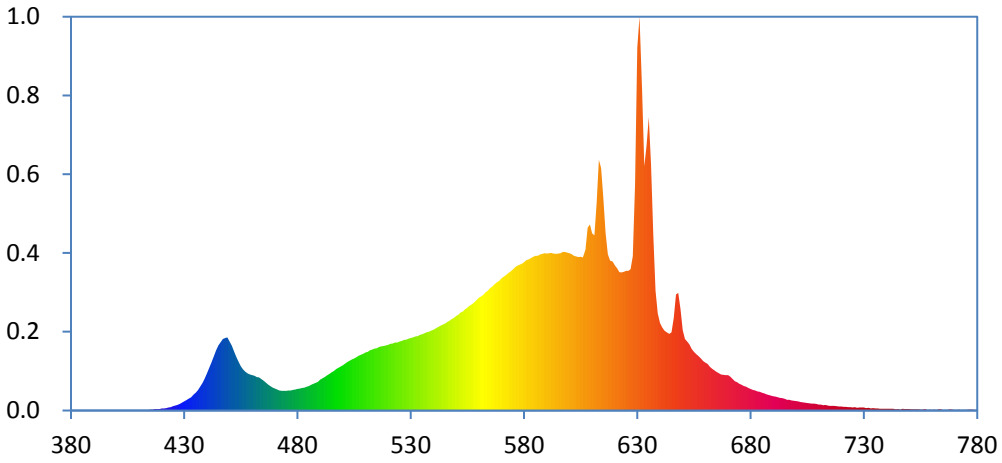
x	0.4667
y	0.4111
u'	0.2667
v'	0.5286

CIE 13.3-1995 (CRI)

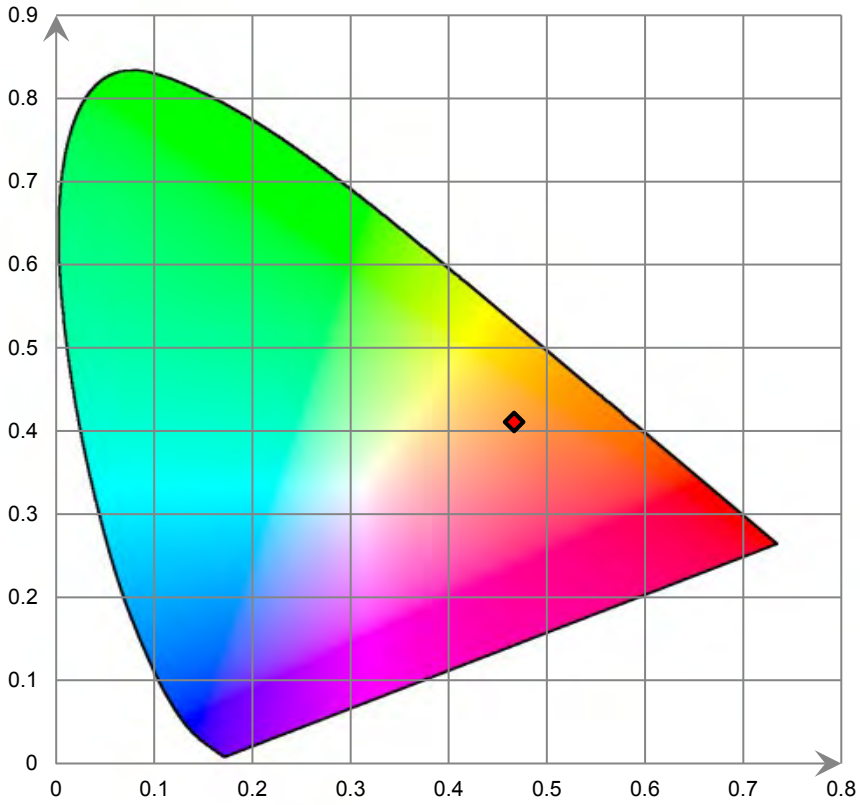
R_a	83
R_9	13

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

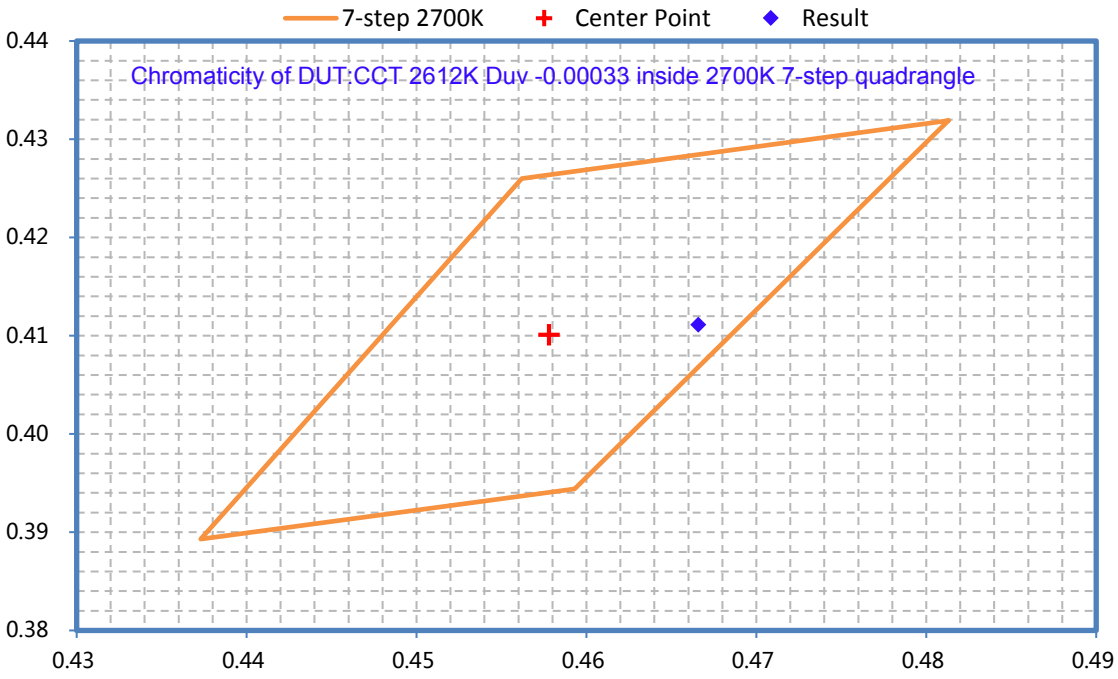
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

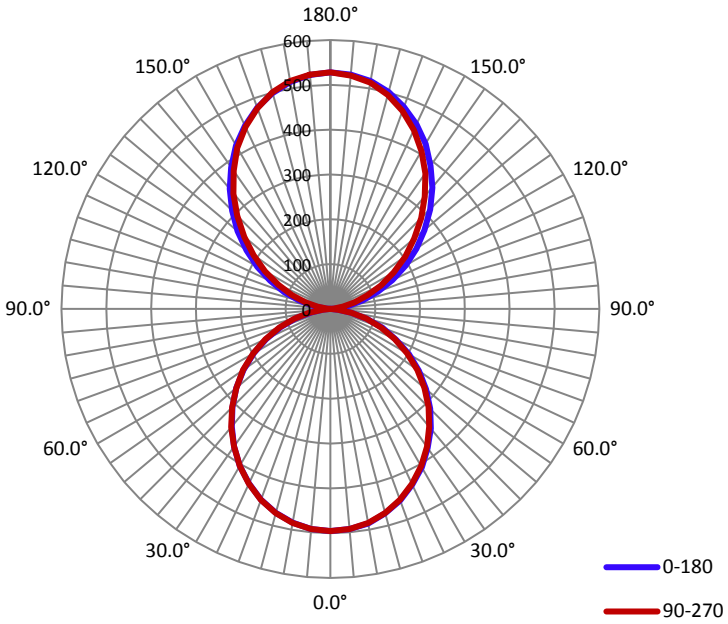
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.179	21.41	0.998

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
2604.4	121.64	529.1	1.22	1.22

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	103.3	102.8	182.8	102.8	122.9
Field Angle (10% I_{max}):	204.3	207.0	183.6	207.5	200.6

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	495.4	495.4	495.4	495.4	495.4	495.4	495.4	495.4
5.0°	492.7	492.6	493.6	492.6	492.8	492.7	492.9	492.5
10.0°	486.0	484.9	485.6	483.4	484.9	484.3	484.4	484.5
15.0°	472.2	471.9	472.0	471.1	471.2	470.5	471.2	471.6
20.0°	455.0	454.5	454.5	452.6	453.5	452.3	452.9	454.1
25.0°	432.4	433.2	431.6	429.3	430.9	429.9	430.7	431.6
30.0°	407.9	407.7	404.9	403.4	404.6	403.4	405.1	405.6
35.0°	378.5	378.9	376.4	373.8	375.1	373.4	376.3	376.9
40.0°	348.5	346.9	345.0	341.8	342.9	341.9	343.9	346.0
45.0°	314.4	313.1	310.3	307.0	309.6	307.0	310.7	312.9
50.0°	278.2	277.1	275.0	270.4	274.2	270.9	274.7	276.2
55.0°	241.6	239.8	237.3	233.2	236.7	233.3	237.1	239.1
60.0°	202.6	201.0	199.5	194.1	197.4	195.4	198.4	201.5
65.0°	162.5	161.0	159.9	155.3	158.5	155.6	158.9	161.6
70.0°	123.4	122.4	119.9	116.2	120.0	116.4	119.0	121.4
75.0°	83.9	83.2	81.5	79.9	82.4	80.2	80.6	82.8
80.0°	46.9	46.8	46.8	46.2	47.3	45.6	46.5	46.8
85.0°	18.2	18.0	18.5	17.2	18.0	17.8	18.1	18.6
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
95.0°	11.8	11.1	9.7	7.9	8.0	8.1	9.1	11.3
100.0°	40.4	37.4	31.9	29.0	28.2	29.2	31.3	36.2
105.0°	75.2	70.8	62.2	56.2	55.0	55.5	60.0	69.5
110.0°	113.0	107.3	97.3	89.1	87.5	89.2	94.8	106.7
115.0°	152.4	146.3	136.1	127.1	124.1	125.9	133.0	145.4
120.0°	193.2	187.0	174.8	165.8	163.1	164.7	172.2	186.3
125.0°	233.9	227.9	215.2	204.7	203.4	204.7	213.4	227.1
130.0°	274.0	269.0	256.6	245.9	244.4	245.1	255.5	268.5
135.0°	314.7	308.6	298.3	287.4	286.6	286.7	296.5	309.2
140.0°	353.9	348.8	338.6	329.0	327.7	327.7	336.6	348.1
145.0°	389.9	387.0	377.6	369.5	368.9	368.1	376.8	385.9
150.0°	424.8	422.2	414.5	407.5	406.0	406.3	412.8	422.0
155.0°	454.6	452.9	446.5	441.8	440.5	441.2	445.7	452.6
160.0°	479.9	479.8	475.1	471.7	470.1	471.8	475.4	480.8
165.0°	501.0	500.6	498.2	495.3	494.5	495.2	497.9	500.5
170.0°	516.2	515.8	515.0	513.4	512.9	512.8	515.0	516.3
175.0°	524.9	525.0	524.8	524.0	522.7	524.5	523.4	525.7
180.0°	527.9	527.9	527.9	527.9	527.9	527.9	527.9	527.9

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	495.4	495.4	495.4	495.4	495.4	495.4	495.4	495.4
5.0°	492.6	492.7	494.7	492.0	492.9	492.7	492.5	492.7
10.0°	484.0	484.5	485.1	483.9	484.9	483.9	484.3	484.4
15.0°	470.7	471.3	472.1	470.3	471.0	470.3	471.0	470.8
20.0°	452.6	452.8	453.6	451.8	453.1	452.3	453.1	453.0
25.0°	429.9	431.4	430.6	429.3	430.1	429.0	430.0	430.8
30.0°	404.1	405.6	404.5	402.4	404.5	402.4	404.7	405.1
35.0°	374.6	376.0	374.9	373.6	374.7	372.8	374.9	376.0
40.0°	342.6	344.6	343.4	341.3	344.2	339.9	343.2	344.7
45.0°	309.5	311.0	309.7	307.2	310.2	306.3	308.7	310.4
50.0°	273.9	275.5	273.6	270.7	274.5	270.5	273.0	274.9
55.0°	236.4	237.2	236.4	233.8	237.8	233.0	235.9	237.4
60.0°	196.8	198.6	198.4	195.1	198.6	193.9	197.2	199.4
65.0°	157.5	159.2	159.3	156.4	159.6	155.3	158.1	159.6
70.0°	118.0	119.1	119.3	116.6	120.9	117.2	118.4	119.4
75.0°	79.1	80.8	80.3	79.6	83.4	79.4	80.0	80.7
80.0°	42.6	44.9	45.3	46.0	47.9	45.3	45.8	45.7
85.0°	15.4	16.6	17.3	16.9	17.9	17.1	17.2	17.0
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
95.0°	9.1	10.5	9.0	7.8	8.1	8.1	9.0	8.2
100.0°	36.3	35.7	31.4	29.9	28.9	29.5	31.0	34.8
105.0°	71.9	69.8	63.0	57.5	56.9	56.8	61.2	69.5
110.0°	109.8	107.0	99.9	92.0	90.9	90.3	97.5	107.3
115.0°	148.4	146.7	139.4	130.5	128.0	129.3	137.2	146.6
120.0°	188.2	187.0	179.7	170.4	168.0	169.1	177.2	187.2
125.0°	228.8	228.0	220.9	211.3	208.9	209.6	218.2	227.5
130.0°	270.3	268.4	262.9	253.6	250.8	252.1	259.8	268.4
135.0°	310.3	310.7	304.1	295.8	293.8	295.3	300.9	309.7
140.0°	349.3	350.2	345.1	338.5	336.1	337.3	342.4	350.3
145.0°	385.8	387.4	383.6	378.5	376.6	378.8	382.0	387.9
150.0°	420.8	422.3	419.7	415.6	415.0	416.5	418.1	422.5
155.0°	450.5	453.3	451.7	449.2	448.1	450.7	450.1	454.6
160.0°	477.2	480.4	479.4	477.6	476.4	479.6	477.9	480.0
165.0°	498.3	500.9	501.4	500.7	500.2	501.0	498.2	501.3
170.0°	514.5	516.2	517.1	517.6	516.6	518.1	515.4	516.1
175.0°	524.2	525.3	526.0	526.0	524.8	526.1	525.9	525.2
180.0°	527.9	527.9	527.9	527.9	527.9	527.9	527.9	527.9

Test Model: LA22P205CUW
Control setting: 2700K & 20W 30% up light+70% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2617.1	≥750	≥675	Pass
Power(W)	21.06	None.	None.	N/A
Total Efficacy(lm/W)	124.29	≥125	≥121.25	Pass
CCT(K)	2605	2580~2870	No tolerances	Pass
Duv	-0.00017	-0.006~0.006	No tolerances	Pass
IES R_f	84	70	69	Pass
IES R_g	98	89	88	
IES Rcs,h1	-11%	-12%~23%	-13%~24%	
R_a	82.5	≥80	≥79	
R_9	13	≥0	≥-1	

Goniophotometer Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2617.3	≥750	≥675	Pass
Power(W)	21.19	None.	None.	N/A
Total Efficacy(lm/W)	123.52	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	56.85%	0-60°≥40%	0-60°≥37%	Pass

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9946	≥0.9	⩾0.87	Pass
120	THDi	5.78%	≤20%	⩽25%	Pass
277	Power Factor	0.9553	≥0.9	⩾0.87	Pass
277	THDi	11.44%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

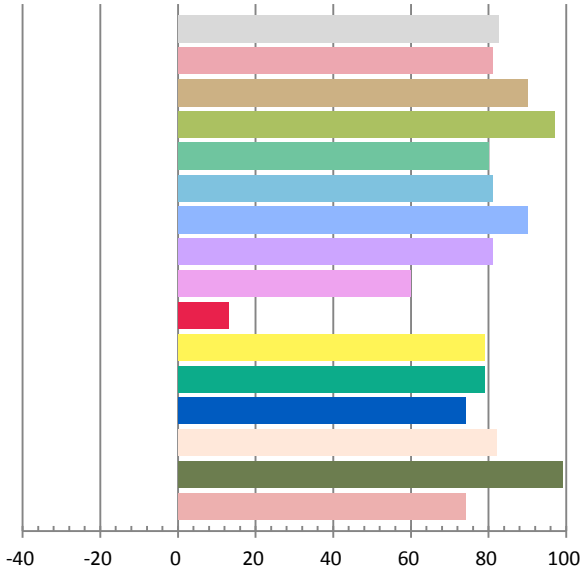
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1764	21.06	0.9946	2617.1	124.29

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.440	2605	-0.00017	0.4675	0.4117	0.2669	0.5289

Color Rendering Index

Ra			
82.5			
R1	R2	R3	R4
81	90	97	80
R5	R6	R7	R8
81	90	81	60
R9	R10	R11	R12
13	79	79	74
R13	R14	R15	
82	99	74	



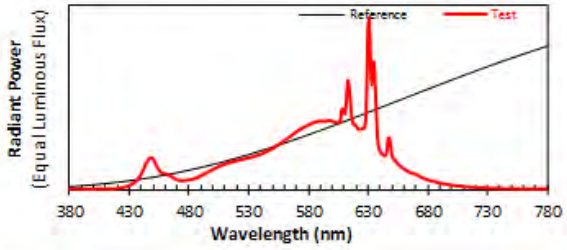
ANSI/IES TM-30-18 Color Rendition Report

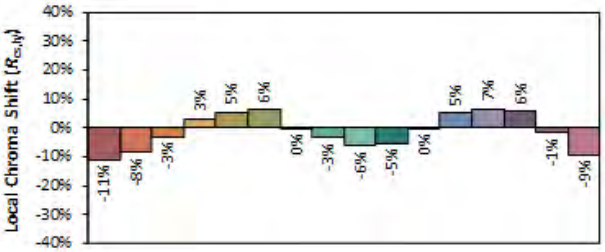
Source: User SPD

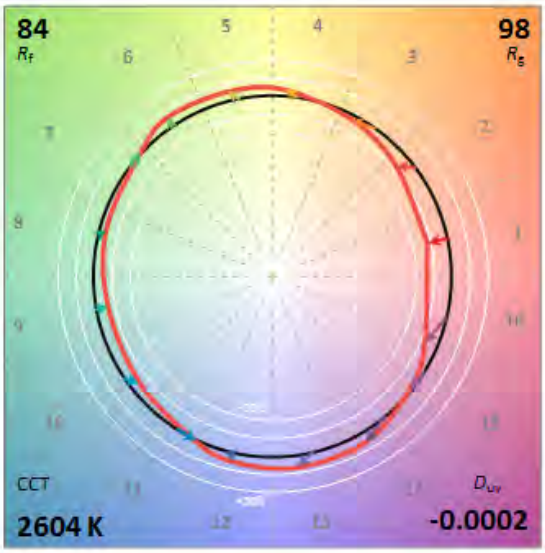
Manufacturer: P.Q.L., Inc.

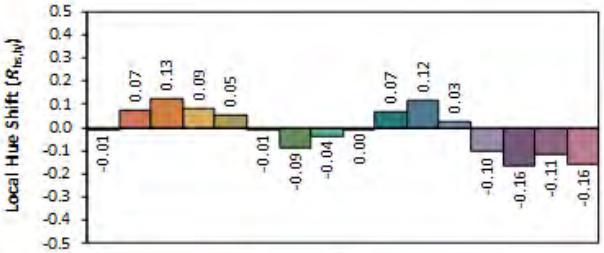
Date: 2026/3/23

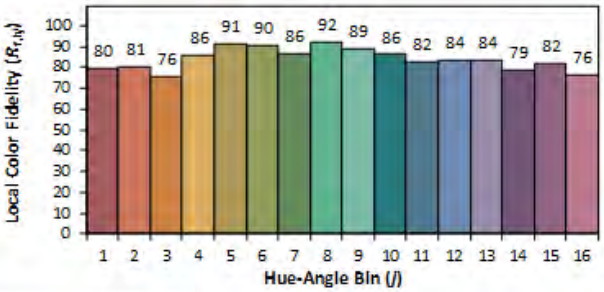
Model: LA22P205CUW-2700K

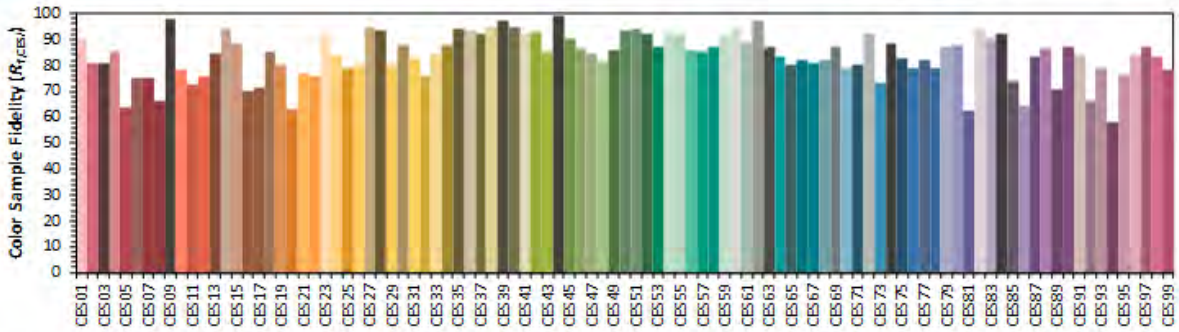












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

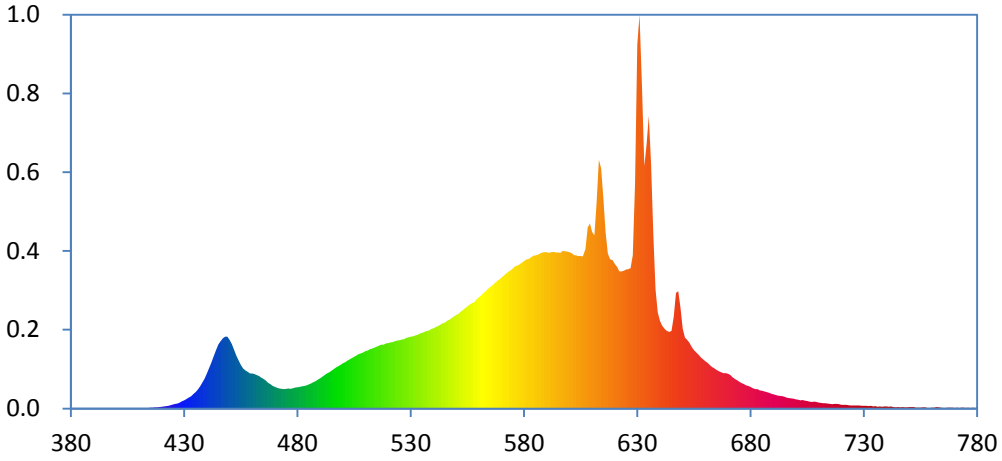
x	0.4676
y	0.4117
u'	0.2670
v'	0.5289

CIE 13.3-1995 (CRI)

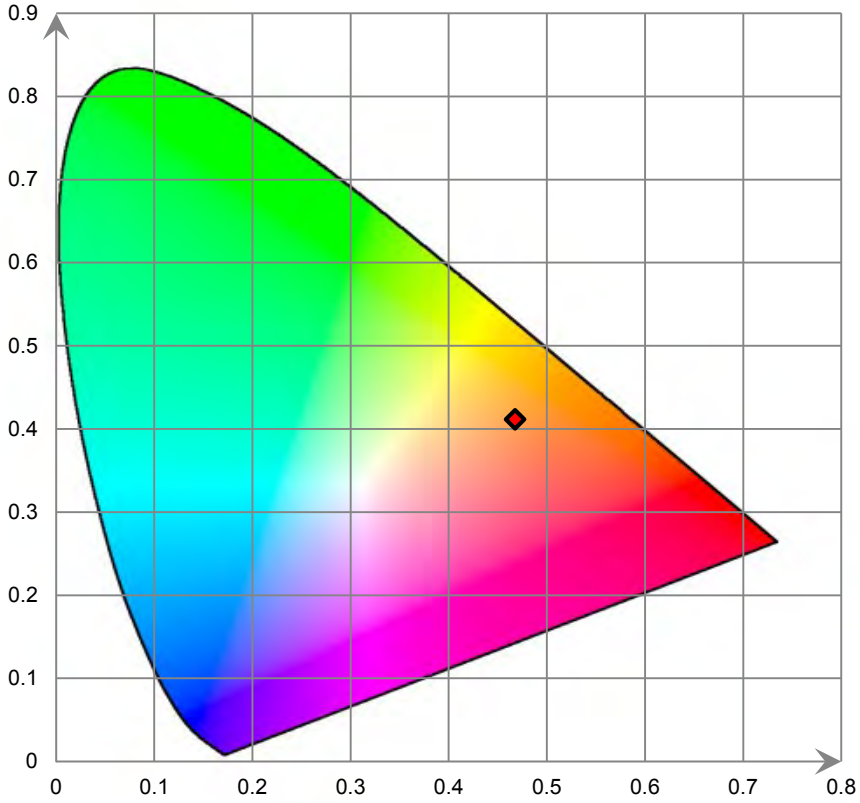
R_a	83
R_9	14

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

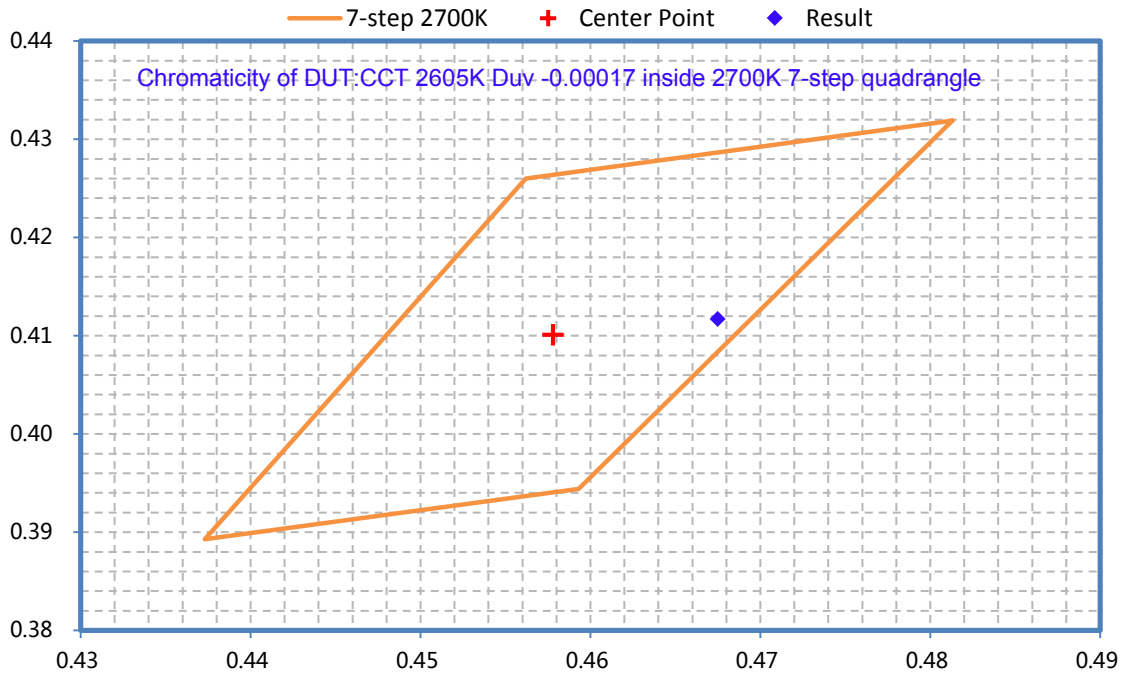
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

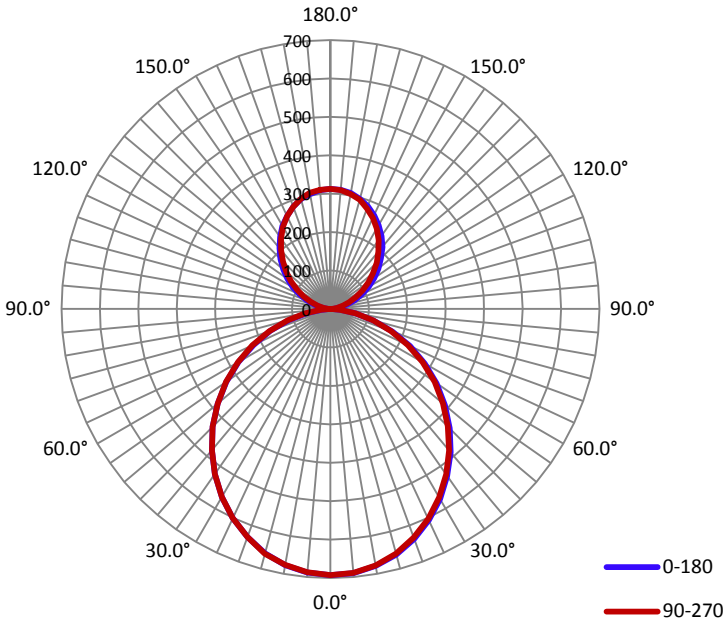
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.177	21.19	0.998

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	Imax (cd)	S/MH (C0/180)	S/MH (C90/270)
2617.3	123.52	693.3	1.22	1.22

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	107.7	107.2	107.0	107.1	107.3
Field Angle (10% I_{max}):	221.3	159.1	227.3	191.9	199.9

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	693.0	693.0	693.0	693.0	693.0	693.0	693.0	693.0
5.0°	689.8	690.1	689.4	688.7	689.0	689.9	689.0	689.3
10.0°	679.0	679.1	677.3	677.9	677.9	678.8	678.3	678.1
15.0°	661.5	661.8	659.3	659.2	659.3	659.5	658.8	659.7
20.0°	636.6	637.0	634.0	634.8	633.7	633.6	634.3	635.1
25.0°	605.7	606.0	602.6	602.3	602.7	603.4	603.7	603.7
30.0°	570.6	571.7	566.0	566.1	566.1	565.1	567.8	568.3
35.0°	530.4	531.2	526.8	524.1	524.8	523.8	526.7	528.2
40.0°	487.1	486.5	480.6	478.7	481.0	478.8	482.8	484.8
45.0°	439.1	438.4	434.4	430.3	432.4	430.2	434.2	436.9
50.0°	389.5	389.6	384.5	379.5	382.6	379.9	383.7	387.7
55.0°	337.7	337.3	333.4	328.1	330.9	326.4	332.5	335.5
60.0°	283.7	281.9	279.1	272.2	276.4	272.8	277.1	281.1
65.0°	228.4	226.9	224.2	217.3	222.7	217.6	221.9	226.1
70.0°	171.6	170.6	168.0	163.9	167.4	163.0	167.1	169.9
75.0°	117.2	116.5	114.4	112.1	115.5	111.6	112.7	116.0
80.0°	66.8	66.6	65.4	64.6	66.7	65.0	64.8	65.4
85.0°	26.7	26.6	26.1	24.4	25.3	24.5	25.1	26.1
90.0°	0.0	0.8	1.0	0.8	0.8	0.0	0.0	1.4
95.0°	8.1	7.6	6.3	5.3	5.3	5.2	5.8	7.4
100.0°	24.8	23.0	19.5	17.7	17.4	17.6	18.8	22.1
105.0°	45.6	42.5	37.0	34.0	33.1	33.3	36.1	41.9
110.0°	67.5	64.1	58.3	53.8	52.3	53.0	56.8	63.5
115.0°	91.1	87.7	80.6	75.2	73.8	75.1	79.1	86.3
120.0°	115.4	111.5	104.5	97.5	97.2	97.7	102.0	110.4
125.0°	139.3	135.7	128.0	122.2	120.5	121.5	126.0	134.7
130.0°	162.7	159.6	152.4	145.7	144.6	145.6	150.6	158.5
135.0°	186.5	183.5	176.3	170.8	170.2	170.3	176.0	182.8
140.0°	210.5	207.0	201.1	195.2	194.5	194.5	200.0	206.4
145.0°	231.6	230.4	223.4	218.9	218.6	217.6	222.4	228.3
150.0°	251.3	250.2	245.9	241.3	241.3	240.4	244.1	250.2
155.0°	268.8	269.0	264.7	261.8	261.5	260.5	263.4	268.1
160.0°	285.0	284.3	282.2	280.2	278.4	278.4	280.9	283.1
165.0°	297.1	296.1	294.5	293.9	294.2	292.7	295.4	296.9
170.0°	306.4	305.9	304.7	304.2	303.9	304.1	304.4	305.1
175.0°	311.5	311.1	311.0	311.6	310.7	310.0	309.8	310.3
180.0°	312.5	312.5	312.5	312.5	312.5	312.5	312.5	312.5

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	693.0	693.0	693.0	693.0	693.0	693.0	693.0	693.0
5.0°	688.7	689.3	689.0	688.3	688.1	689.3	688.8	689.3
10.0°	677.0	678.7	677.9	677.6	676.2	677.0	677.7	678.3
15.0°	658.2	658.7	658.1	657.4	659.0	658.0	659.2	659.8
20.0°	631.8	634.0	633.6	632.4	632.0	631.8	633.2	634.7
25.0°	600.6	603.1	601.8	601.3	601.0	600.1	602.4	603.2
30.0°	565.4	567.6	565.1	563.9	565.0	562.4	565.9	567.2
35.0°	524.4	526.8	524.2	522.5	524.5	521.1	524.4	526.5
40.0°	480.1	483.0	479.8	477.5	479.9	476.5	479.5	481.7
45.0°	433.3	434.7	431.8	430.0	433.0	428.0	433.1	435.2
50.0°	382.5	384.8	381.9	380.1	383.0	378.0	382.4	384.6
55.0°	330.4	332.6	330.4	327.1	331.2	325.4	330.2	333.2
60.0°	276.2	278.2	277.5	272.6	278.3	272.4	275.8	277.9
65.0°	221.1	222.6	222.8	218.2	223.9	218.5	221.0	222.5
70.0°	165.5	166.6	167.0	163.8	169.3	162.7	165.5	166.8
75.0°	111.2	113.3	113.8	111.9	116.0	110.8	112.5	113.3
80.0°	61.3	64.4	64.7	64.0	67.3	64.6	64.0	63.8
85.0°	22.5	24.7	24.8	24.2	25.1	24.3	24.7	24.4
90.0°	0.0	0.0	1.0	0.0	0.0	0.7	0.8	1.3
95.0°	6.7	6.8	6.1	5.3	5.3	5.2	5.8	5.2
100.0°	22.5	22.1	19.4	18.3	17.9	18.0	19.0	21.1
105.0°	43.4	42.6	38.0	35.1	34.7	34.6	37.0	41.5
110.0°	65.7	64.8	59.9	55.3	54.6	54.6	58.3	63.9
115.0°	88.6	88.0	83.5	78.2	77.1	76.8	82.0	87.5
120.0°	112.2	111.4	107.2	102.0	100.5	100.5	105.8	110.9
125.0°	136.3	135.9	131.4	126.2	125.4	124.7	130.1	135.5
130.0°	160.3	160.4	156.5	151.2	150.4	150.0	154.4	159.4
135.0°	184.4	185.0	180.6	175.8	174.6	175.4	179.4	183.3
140.0°	206.7	207.9	205.2	202.0	200.0	200.2	203.8	206.7
145.0°	228.6	230.5	228.0	225.7	224.4	224.2	226.3	229.3
150.0°	249.5	251.2	249.6	247.6	247.1	246.4	248.2	249.8
155.0°	267.2	269.3	267.7	266.6	266.8	266.6	266.9	268.0
160.0°	282.7	285.5	283.7	284.1	283.4	283.5	283.6	283.5
165.0°	295.6	297.3	297.0	297.1	296.8	297.8	296.2	295.4
170.0°	304.3	307.7	305.8	306.8	307.3	306.3	305.0	305.7
175.0°	310.6	311.4	312.0	312.2	311.4	311.7	311.0	311.5
180.0°	312.5	312.5	312.5	312.5	312.5	312.5	312.5	312.5

Test Model: LA22P205CUW
Control setting: 2700K & 16W 50% up light+50% down light

Test Data

[Integrating Sphere System]

Photometric and Electrical Measurement Result

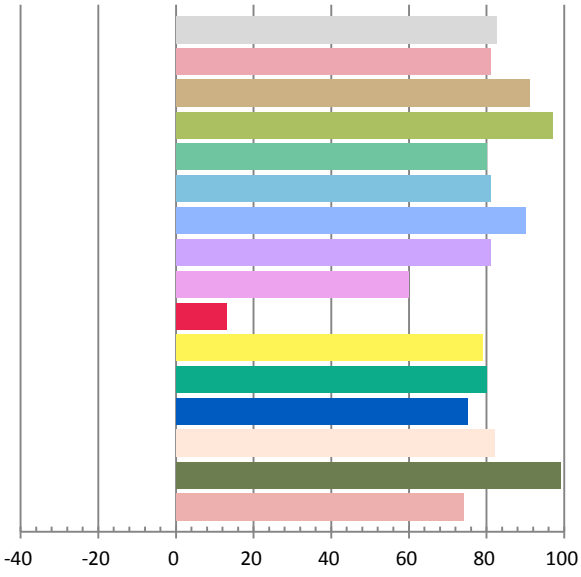
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1371	16.3	0.9905	2053.7	126.02

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
5.842	2612	-0.00028	0.4667	0.4113	0.2666	0.5286

Test Voltage(V)	Power Factor	THDi
120	0.9905	8.88%
277	0.9371	13.74%

Color Rendering Index

Ra			
82.6			
R1	R2	R3	R4
81	91	97	80
R5	R6	R7	R8
81	90	81	60
R9	R10	R11	R12
13	79	80	75
R13	R14	R15	
82	99	74	



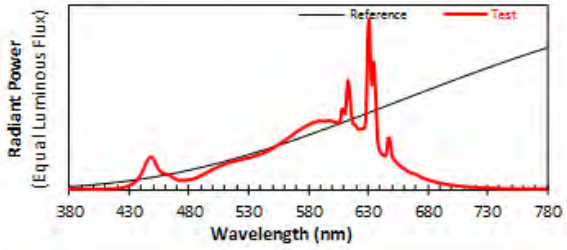
ANSI/IES TM-30-18 Color Rendition Report

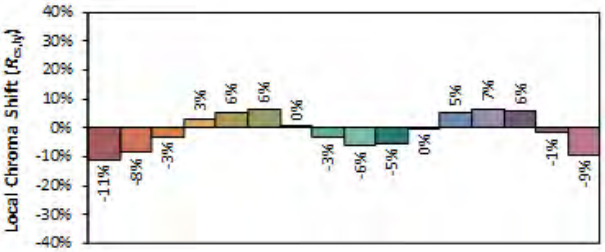
Source: User SPD

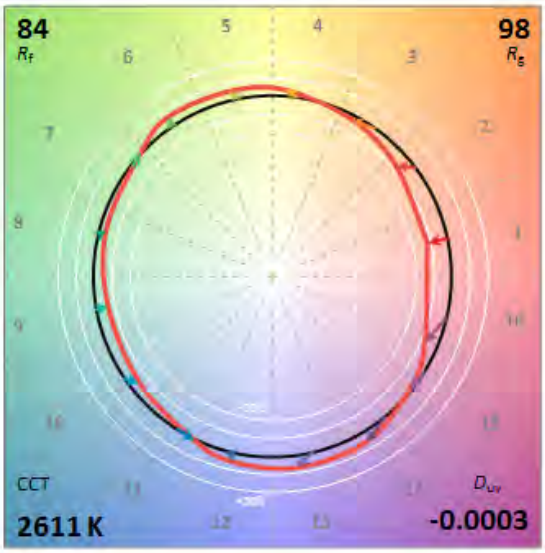
Manufacturer: P.Q.L., Inc.

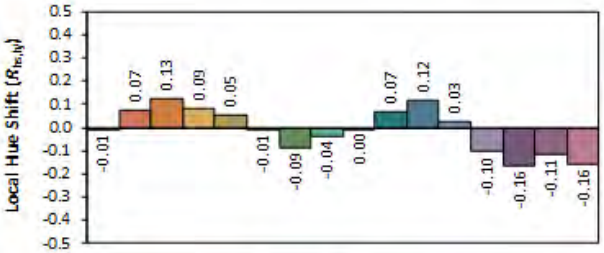
Date: 2026/3/23

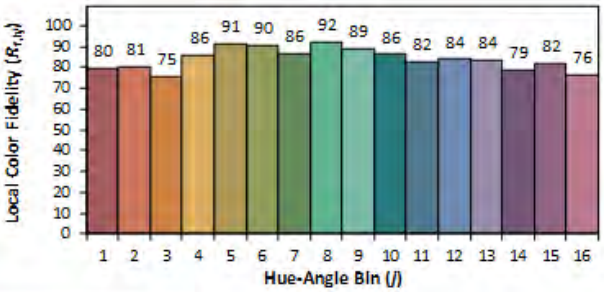
Model: LA22P205CUW-2700K

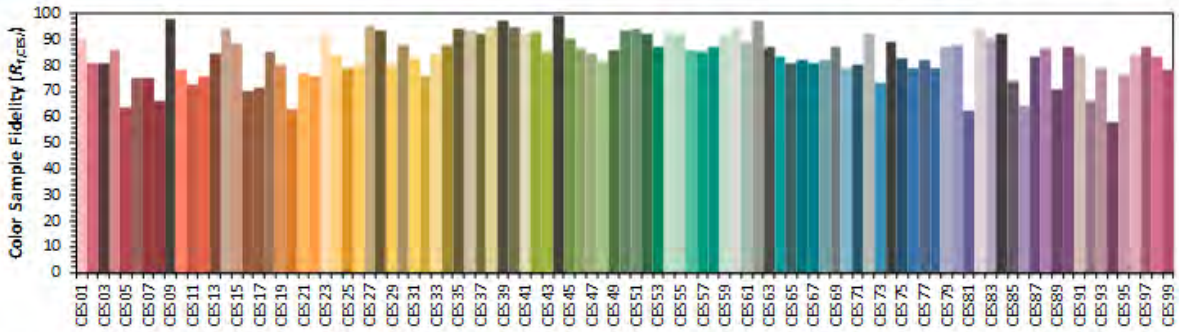












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

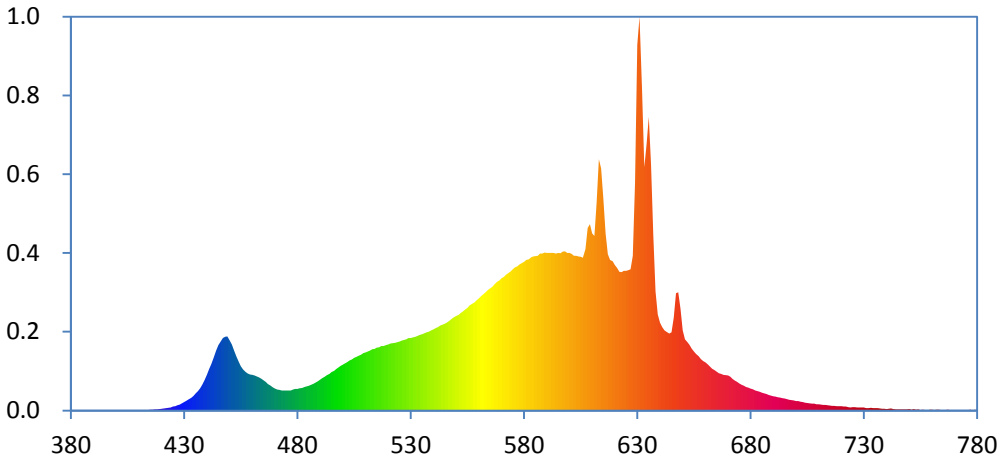
x	0.4668
y	0.4112
u'	0.2667
v'	0.5286

CIE 13.3-1995 (CRI)

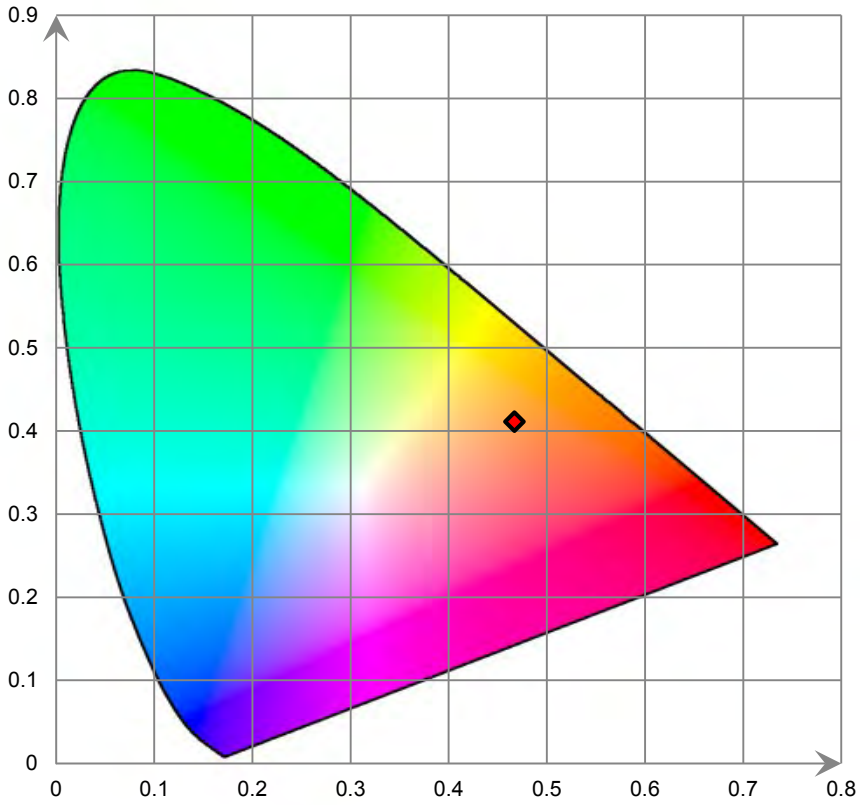
R_a	83
R_9	14

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

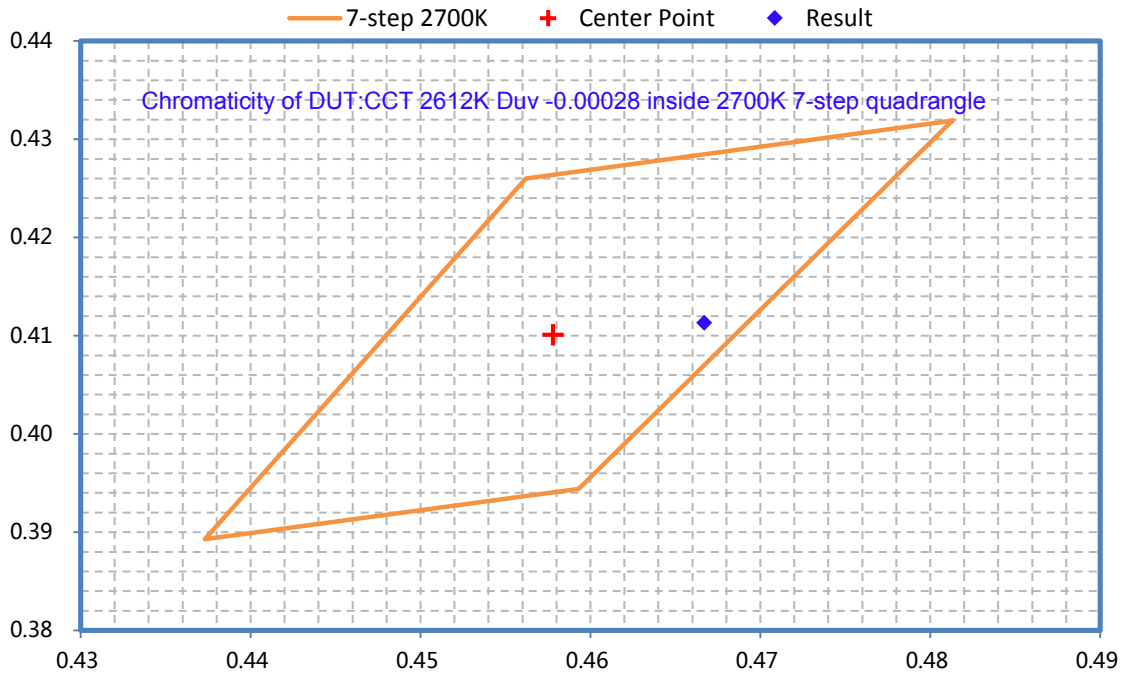
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model: LA22P205CUW
Control setting: 2700K & 12W 50% up light+50% down light

Test Data

[Integrating Sphere System]

Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.1	60	0.1061	12.54	0.9838	1596.1	127.3

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
4.534	2606	-0.00024	0.4673	0.4115	0.2669	0.5288

Test Voltage(V)	Power Factor	THDi
120	0.9838	13.47%
277	0.9081	17.56%

Color Rendering Index

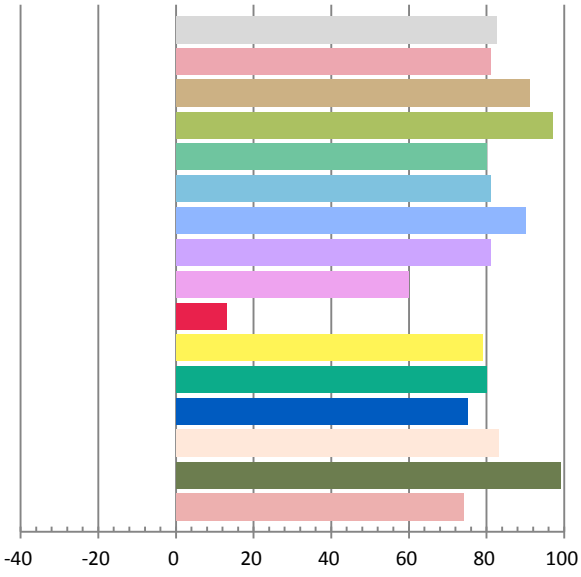
Ra
82.6

R1	R2	R3	R4
81	91	97	80

R5	R6	R7	R8
81	90	81	60

R9	R10	R11	R12
13	79	80	75

R13	R14	R15
83	99	74



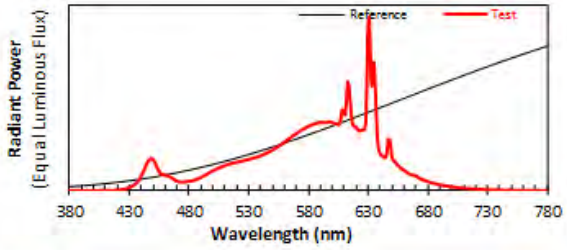
ANSI/IES TM-30-18 Color Rendition Report

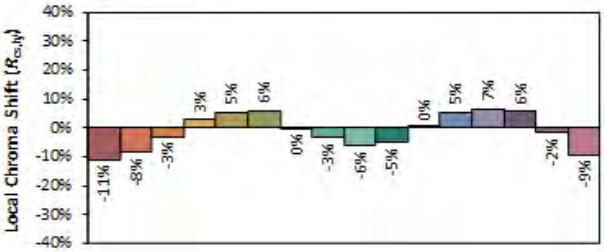
Source: User SPD

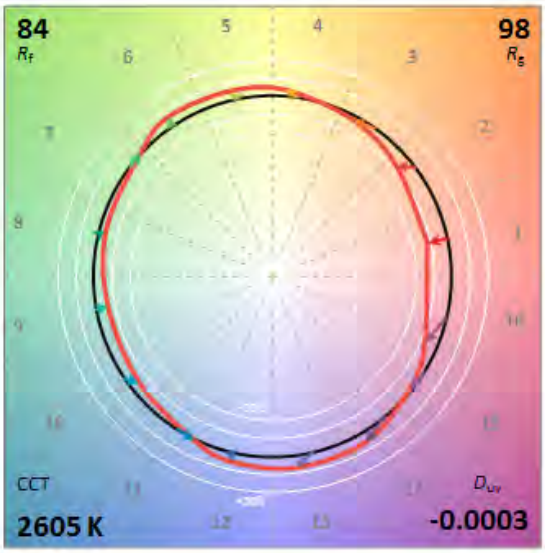
Date: 2026/3/23

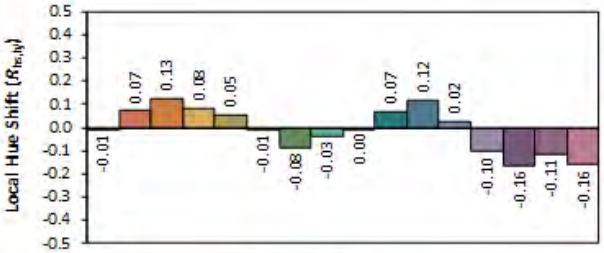
Manufacturer: P.Q.L., Inc.

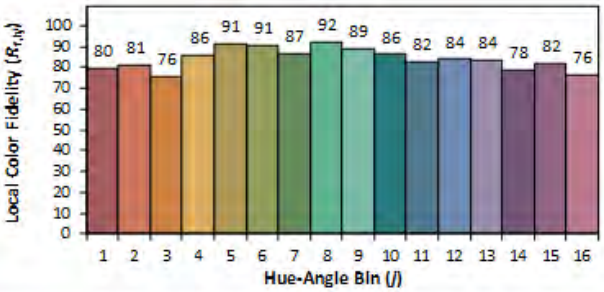
Model: LA22P205CUW-2700K

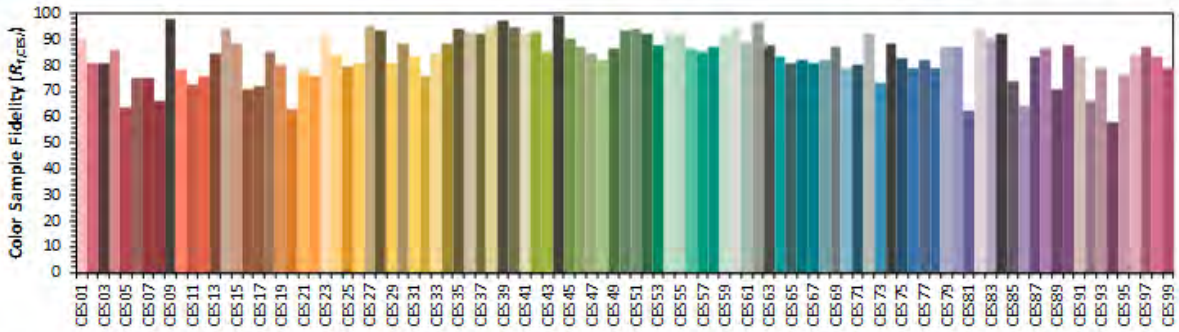












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

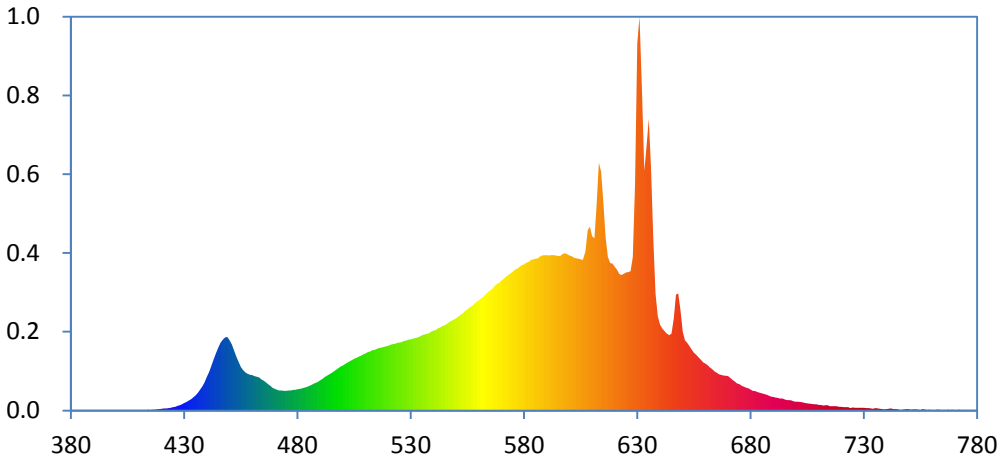
x	**0.4674**
y	**0.4114**
u'	**0.2670**
v'	**0.5288**

CIE 13.3-1995 (CRI)

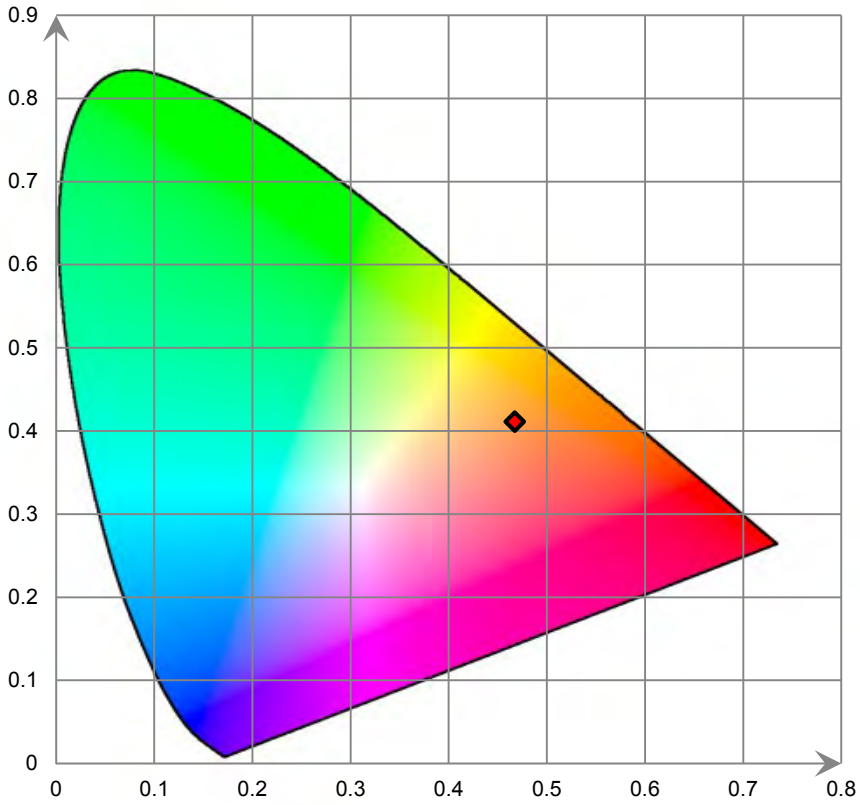
R_a	83
R_9	14

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

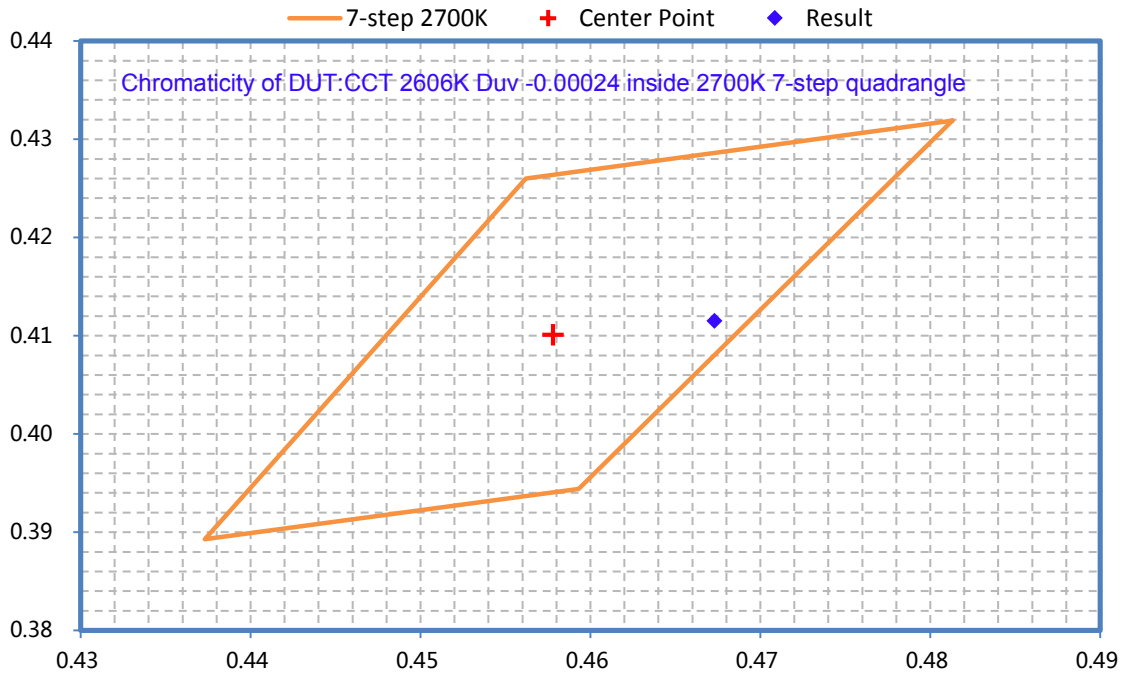
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model:LA22P205CUW
Control setting: 2700K & 10W 50% up light+50% down light

Test Data

[Integrating Sphere System]

Photometric and Electrical Measurement Result

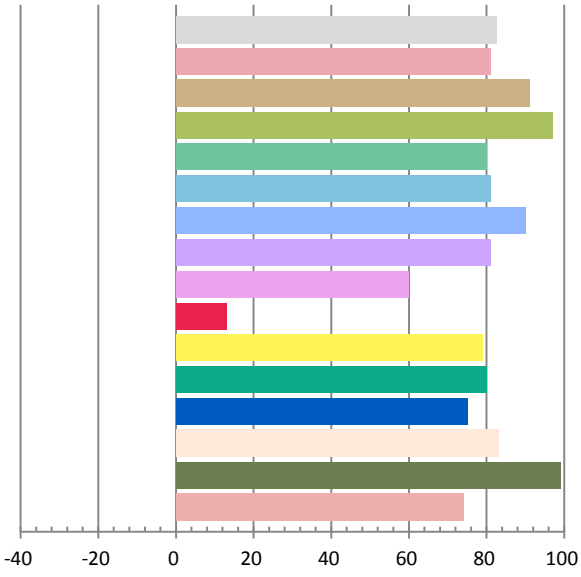
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.0851	10.01	0.981	1269.8	126.8

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
3.603	2605	-0.00018	0.4675	0.4117	0.2669	0.5289

Test Voltage(V)	Power Factor	THDi
120	0.981	13.28%
277	0.8807	20.27%

Color Rendering Index

Ra			
82.7			
R1	R2	R3	R4
81	91	97	80
R5	R6	R7	R8
81	90	81	60
R9	R10	R11	R12
13	79	80	75
R13	R14	R15	
83	99	74	



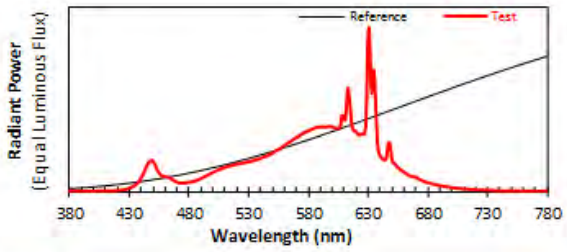
ANSI/IES TM-30-18 Color Rendition Report

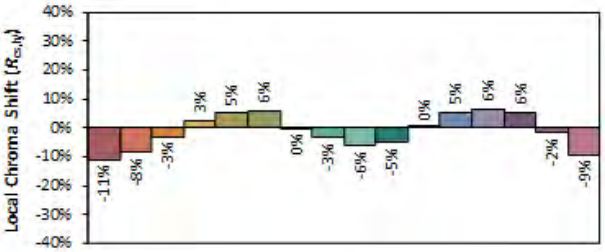
Source: User SPD

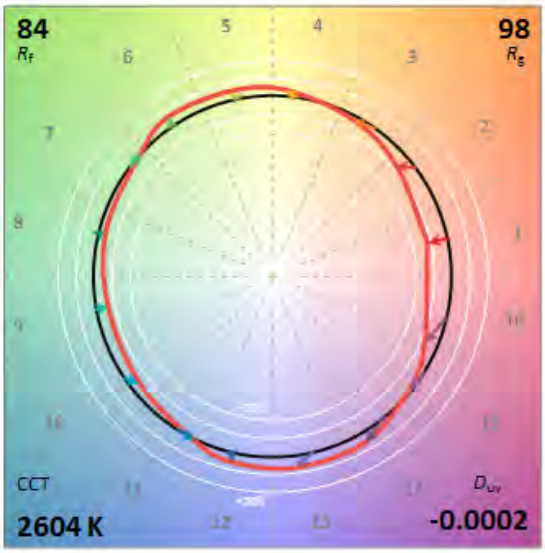
Manufacturer: P.Q.L., Inc.

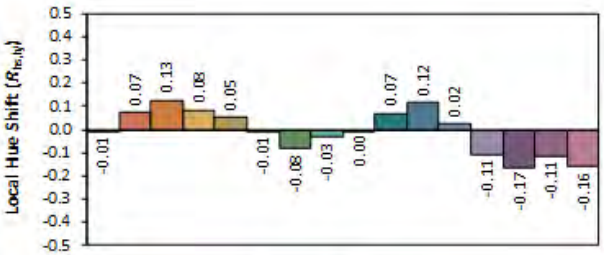
Date: 2026/3/23

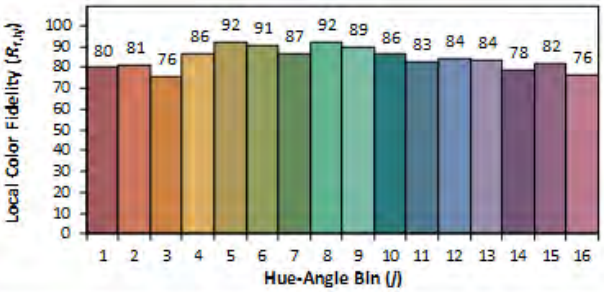
Model: LA22P205CUW-2700K

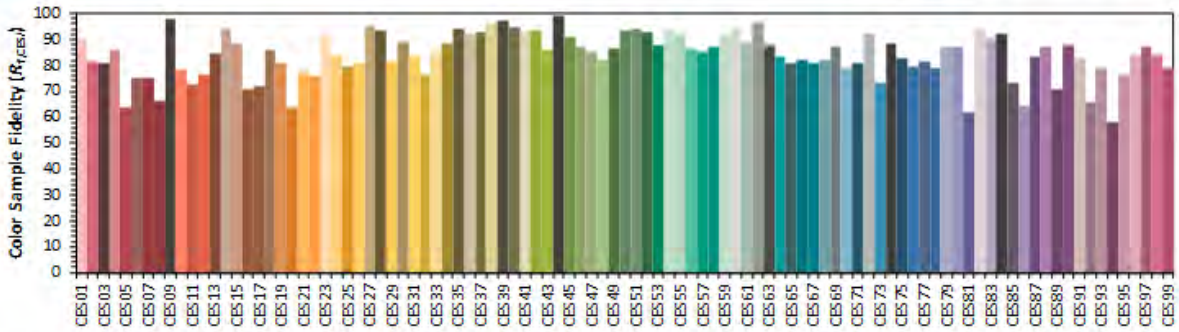












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

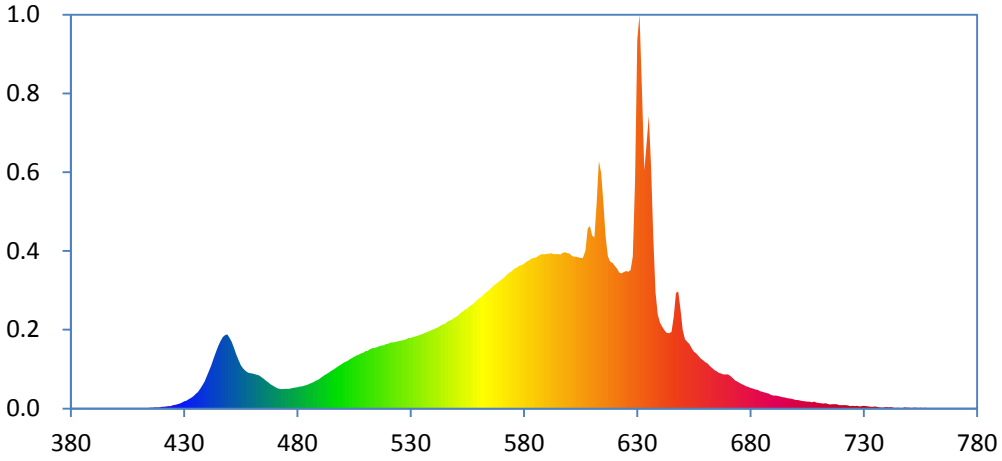
x	0.4675
y	0.4116
u'	0.2670
v'	0.5289

CIE 13.3-1995 (CRI)

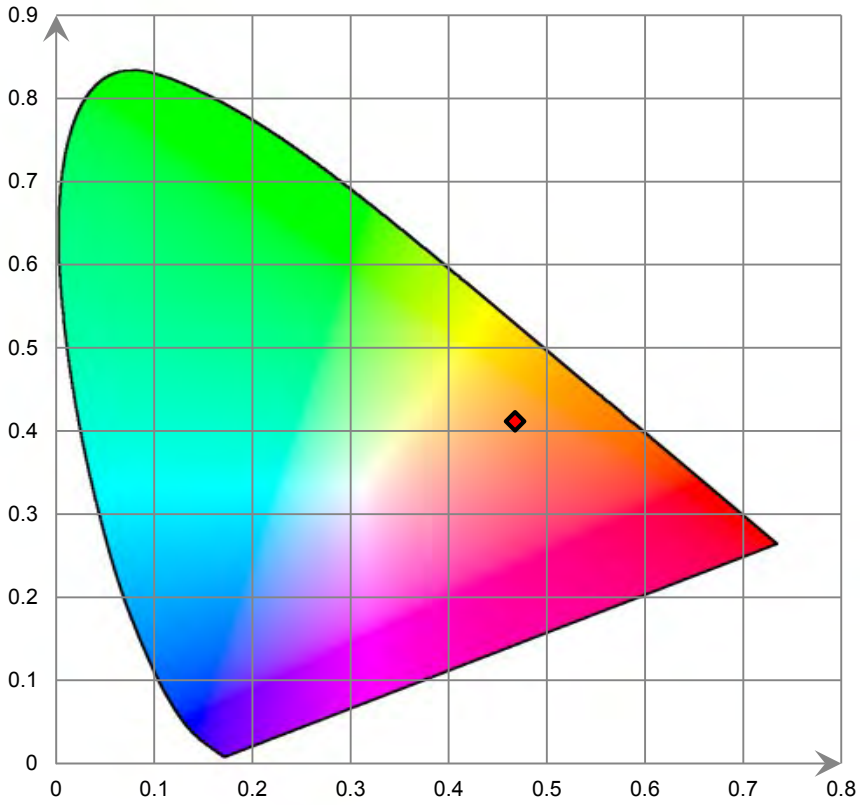
R_a	83
R_9	14

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

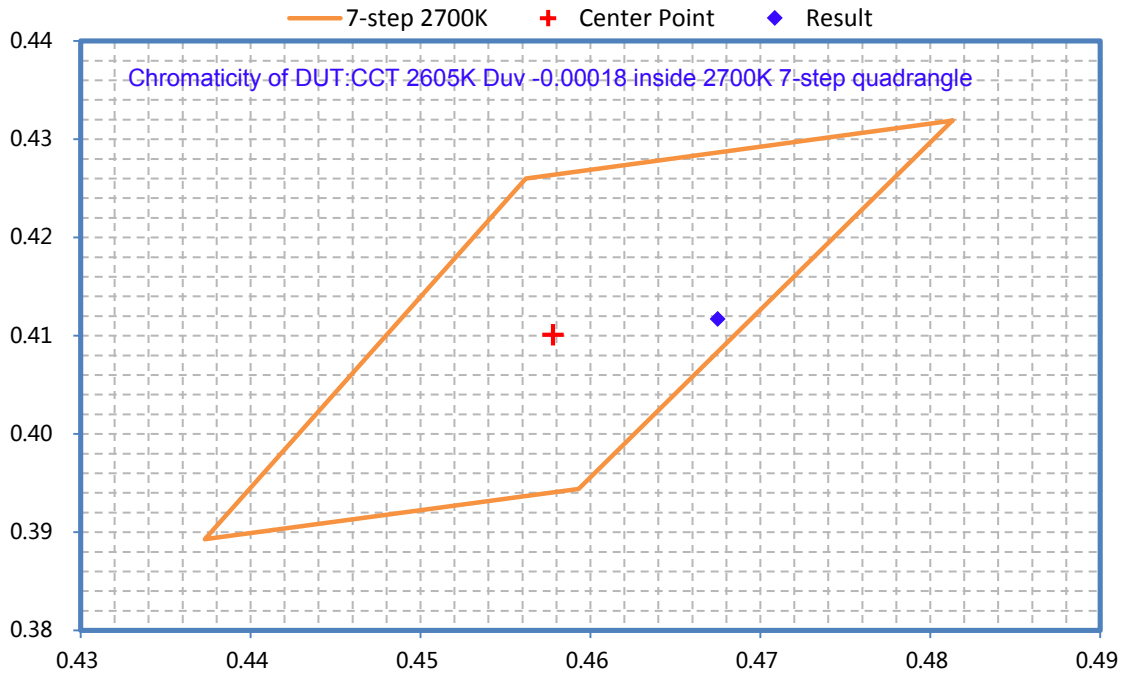
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model:LA22P205CUW
Control setting: 3500K & 20W 100% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2677.2	≥750	≥675	Pass
Power(W)	20.69	None.	None.	N/A
Total Efficacy(lm/W)	129.39	≥125	≥121.25	Pass
CCT(K)	3373	3220~3710	No tolerances	Pass
Duv	-0.00372	-0.0055~0.0065	No tolerances	Pass
IES R_f	85	70	69	Pass
IES R_g	98	89	88	
IES Rcs,h1	-10%	-12%~23%	-13%~24%	
R_a	85.8	≥80	≥79	
R9	26	≥0	≥-1	

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9945	≥0.9	⩾0.87	Pass
120	THDi	5.79%	≤20%	⩽25%	Pass
277	Power Factor	0.954	≥0.9	⩾0.87	Pass
277	THDi	11.49%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

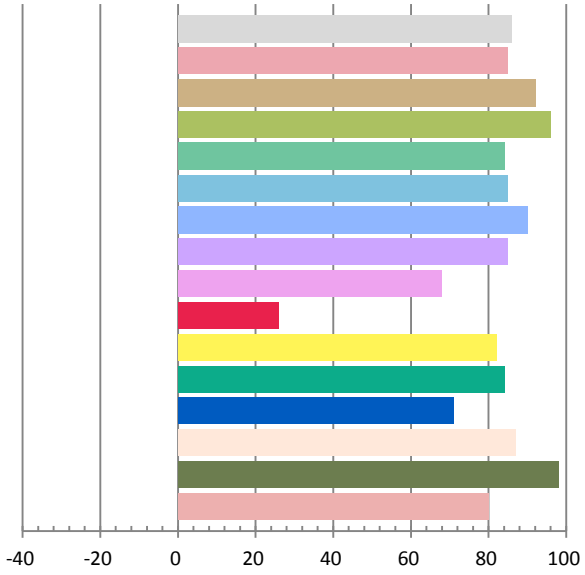
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1733	20.69	0.9945	2677.2	129.39

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.823	3373	-0.00372	0.4085	0.3838	0.2407	0.5088

Color Rendering Index

Ra			
85.8			
R1	R2	R3	R4
85	92	96	84
R5	R6	R7	R8
85	90	85	68
R9	R10	R11	R12
26	82	84	71
R13	R14	R15	
87	98	80	



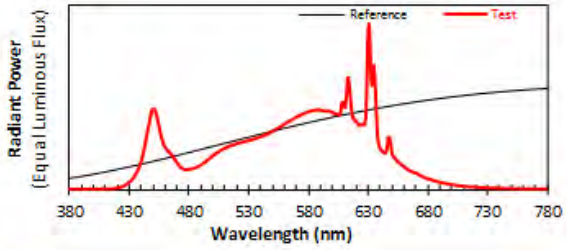
ANSI/IES TM-30-18 Color Rendition Report

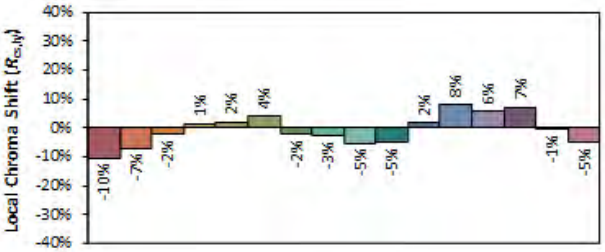
Source: User SPD

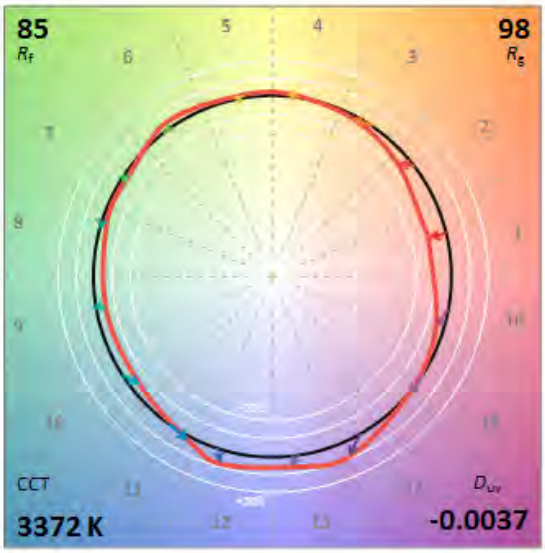
Manufacturer: P.Q.L., Inc.

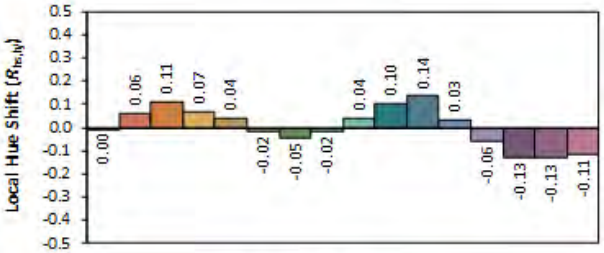
Date: 2026/3/23

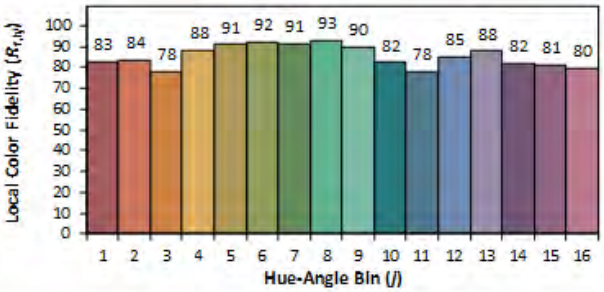
Model: LA22P205CUW-3500K

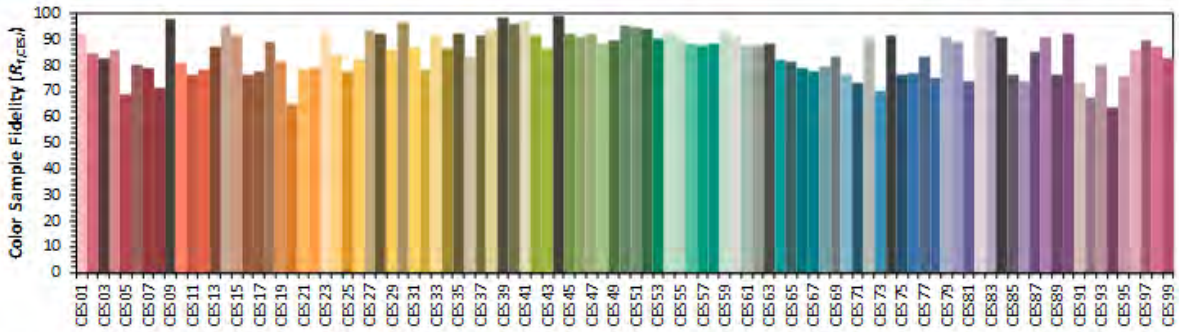












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

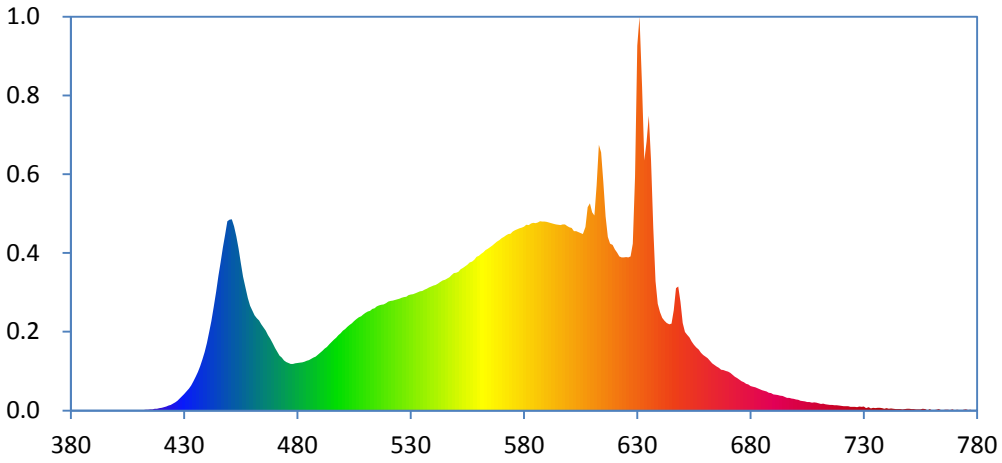
x	**0.4085**
y	**0.3838**
u'	**0.2407**
v'	**0.5088**

CIE 13.3-1995 (CRI)

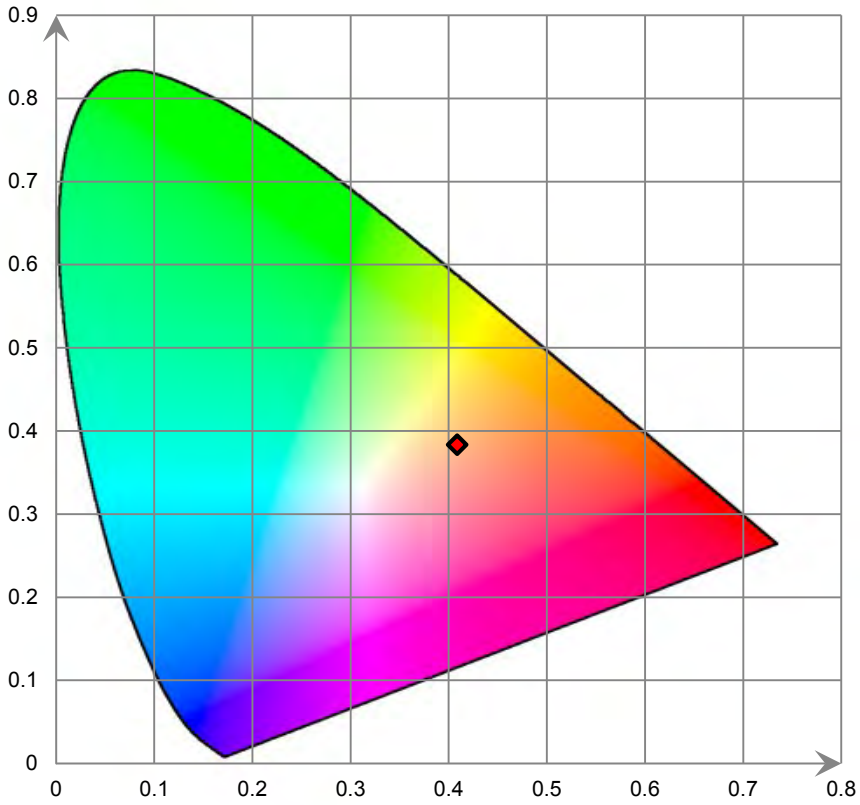
R_a	86
R_9	26

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

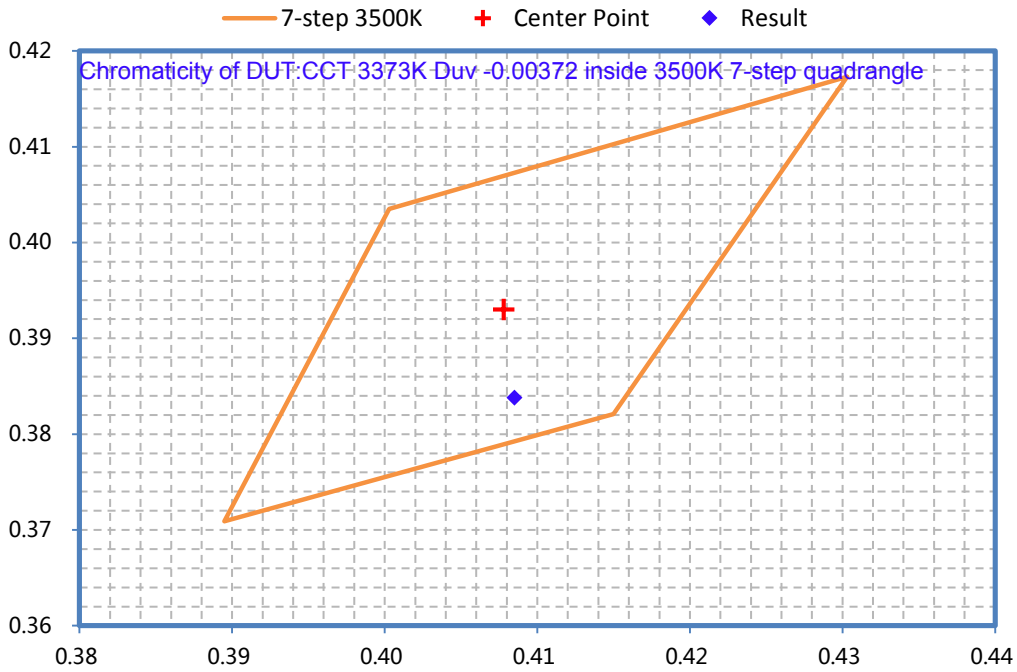
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model:LA22P205CUW
Control setting: 3500K & 20W 50% up light+50% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2684.3	≥750	≥675	Pass
Power(W)	21.25	None.	None.	N/A
Total Efficacy(lm/W)	126.32	≥125	≥121.25	Pass
CCT(K)	3395	3220~3710	No tolerances	Pass
Duv	-0.00387	-0.0055~0.0065	No tolerances	Pass
IES R_f	85	70	69	Pass
IES R_g	99	89	88	
IES Rcs,h1	-10%	-12%~23%	-13%~24%	
R_a	85.8	≥80	≥79	
R_9	26	≥0	≥-1	

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9947	≥0.9	⩾0.87	Pass
120	THDi	5.80%	≤20%	⩽25%	Pass
277	Power Factor	0.9556	≥0.9	⩾0.87	Pass
277	THDi	11.51%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

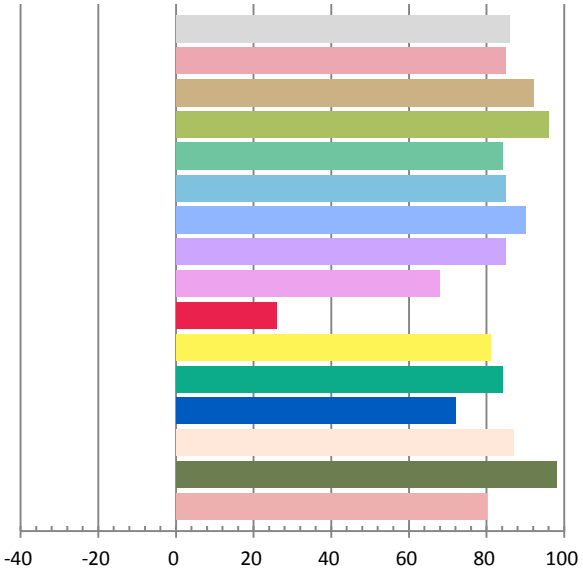
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.178	21.25	0.9947	2684.3	126.32

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.855	3395	-0.00387	0.4070	0.3828	0.2402	0.5082

Color Rendering Index

Ra			
85.8			
R1	R2	R3	R4
85	92	96	84
R5	R6	R7	R8
85	90	85	68
R9	R10	R11	R12
26	81	84	72
R13	R14	R15	
87	98	80	



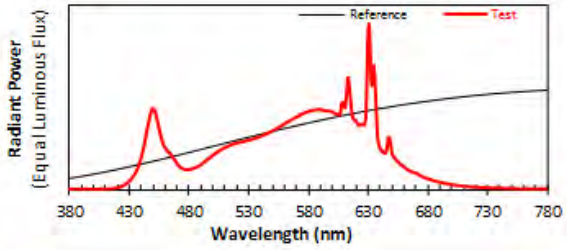
ANSI/IES TM-30-18 Color Rendition Report

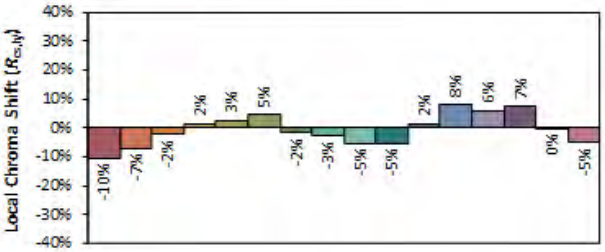
Source: User SPD

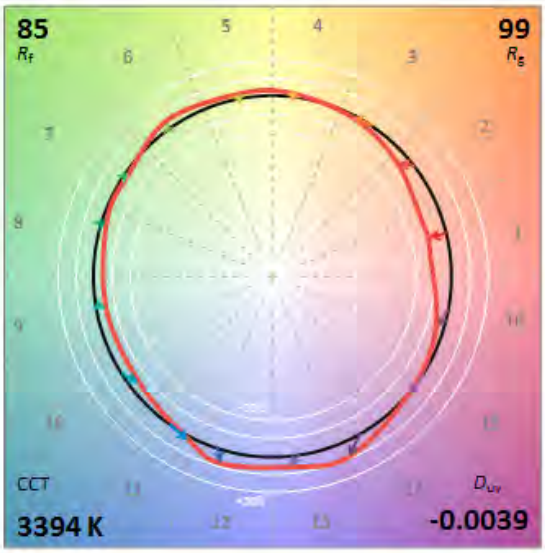
Manufacturer: P.Q.L., Inc.

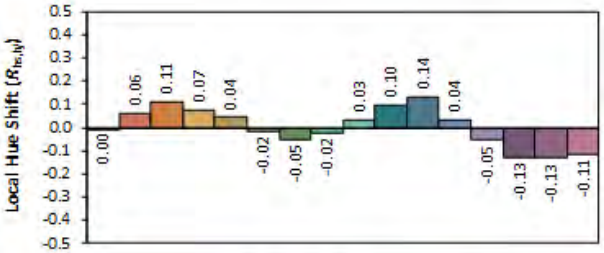
Date: 2026/3/23

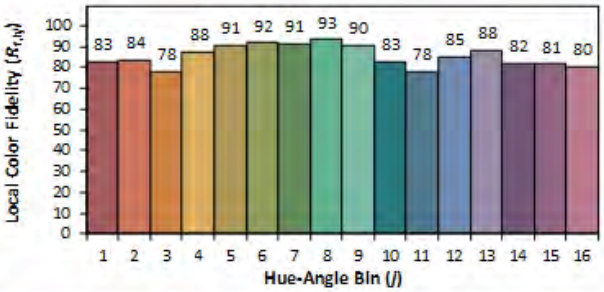
Model: LA22P205CUW-3500K

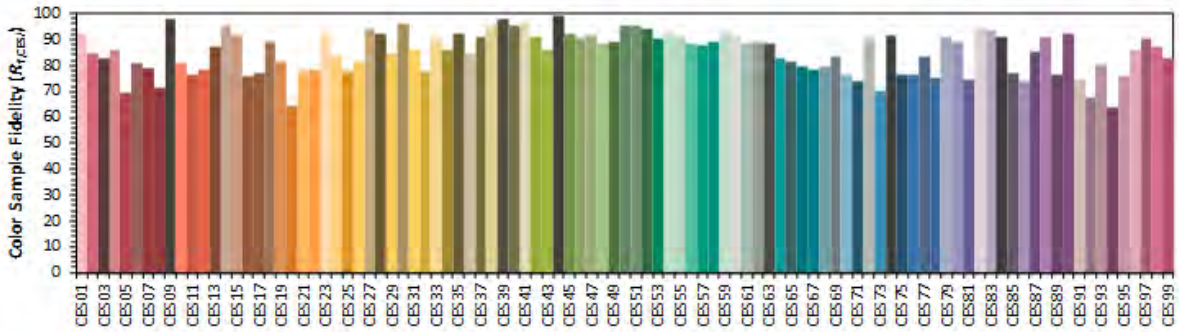












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

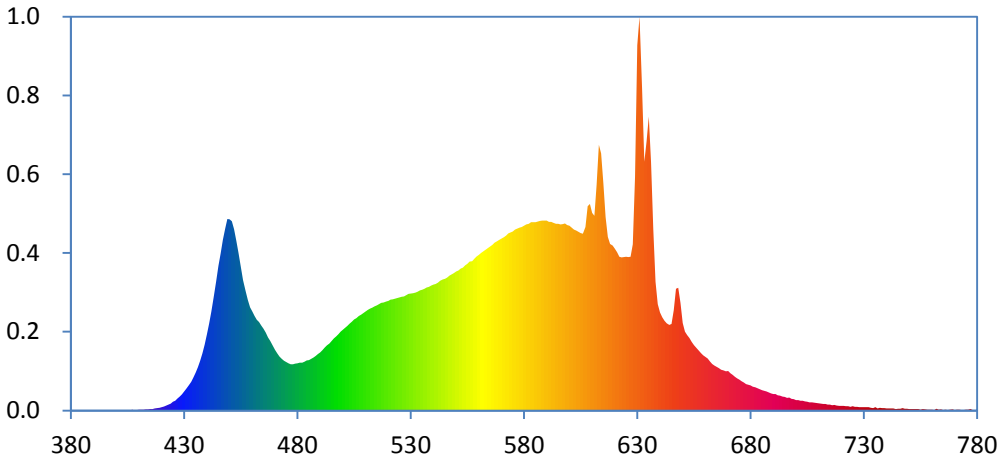
x	**0.4071**
y	**0.3828**
u'	**0.2402**
v'	**0.5082**

CIE 13.3-1995 (CRI)

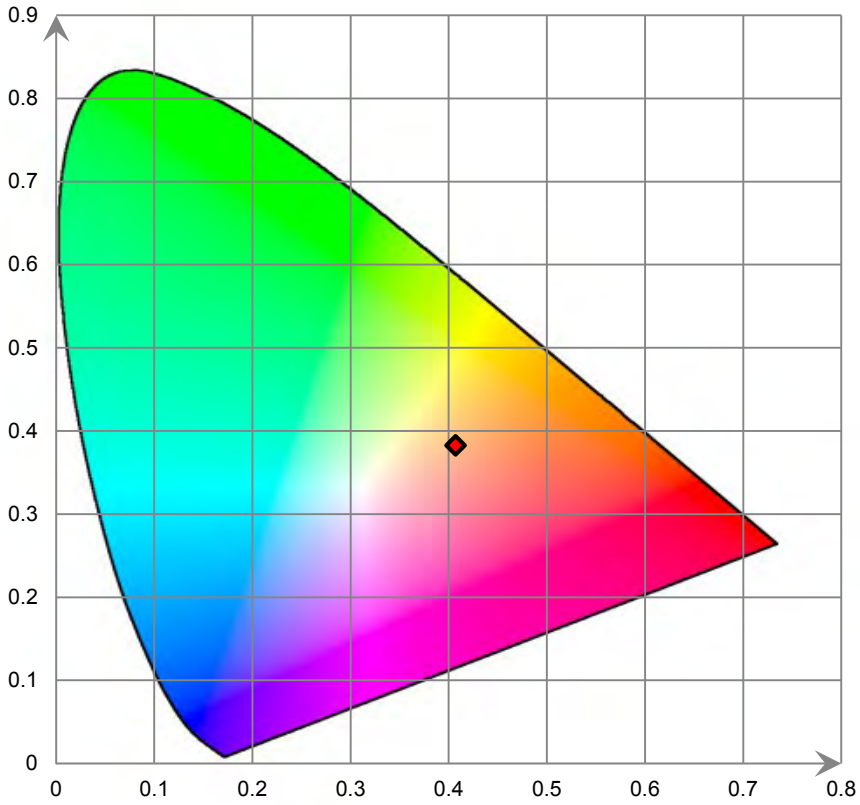
R_a	86
R_9	26

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

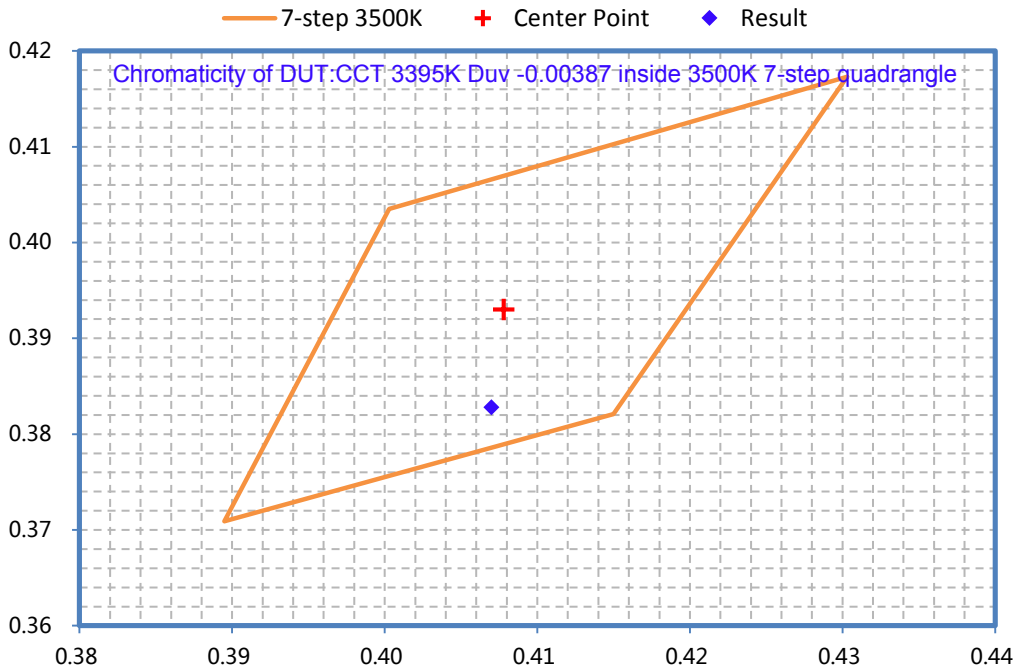
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model:LA22P205CUW
Control setting: 3500K & 20W 30% up light+70% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2701.9	≥750	≥675	Pass
Power(W)	21.06	None.	None.	N/A
Total Efficacy(lm/W)	128.27	≥125	≥121.25	Pass
CCT(K)	3372	3220~3710	No tolerances	Pass
Duv	-0.00367	-0.0055~0.0065	No tolerances	Pass
IES R_f	85	70	69	Pass
IES R_g	98	89	88	
IES Rcs,h1	-10%	-12%~23%	-13%~24%	
R_a	85.7	≥80	≥79	
R_9	26	≥0	≥-1	

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9947	≥0.9	⩾0.87	Pass
120	THDi	5.77%	≤20%	⩽25%	Pass
277	Power Factor	0.9551	≥0.9	⩾0.87	Pass
277	THDi	11.44%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

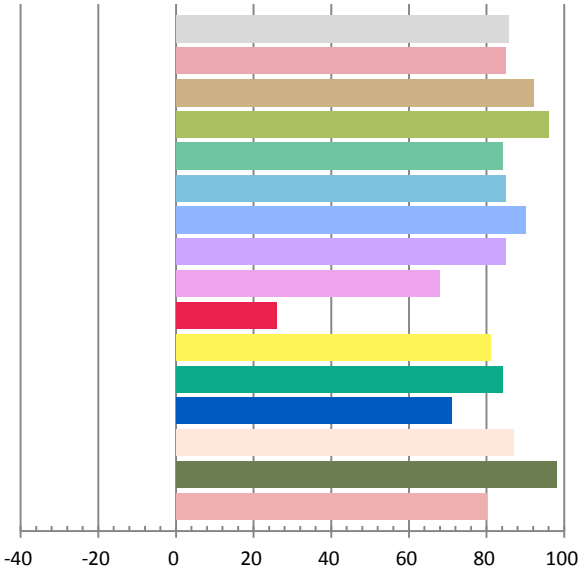
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1765	21.06	0.9947	2701.9	128.27

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
7.891	3372	-0.00367	0.4085	0.3840	0.2407	0.5089

Color Rendering Index

Ra			
85.7			
R1	R2	R3	R4
85	92	96	84
R5	R6	R7	R8
85	90	85	68
R9	R10	R11	R12
26	81	84	71
R13	R14	R15	
87	98	80	



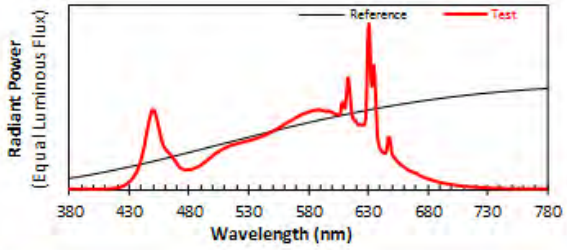
ANSI/IES TM-30-18 Color Rendition Report

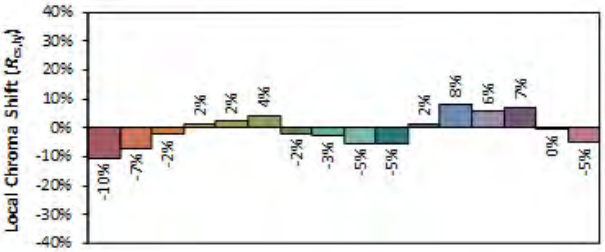
Source: User SPD

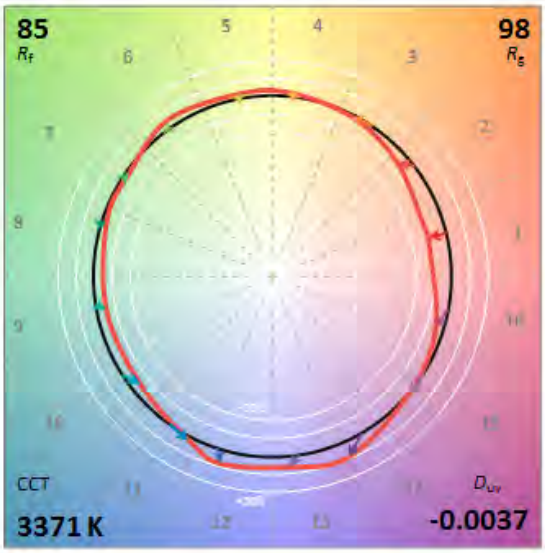
Manufacturer: P.Q.L., Inc.

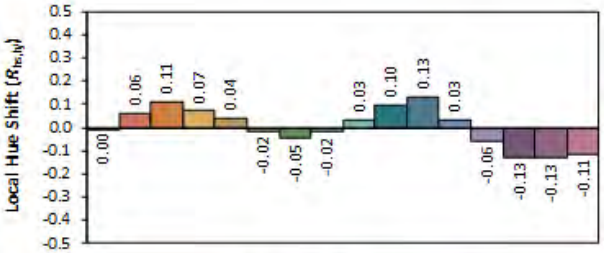
Date: 2026/3/23

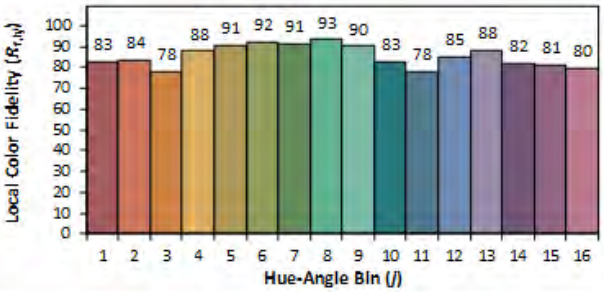
Model: LA22P205CUW-3500K

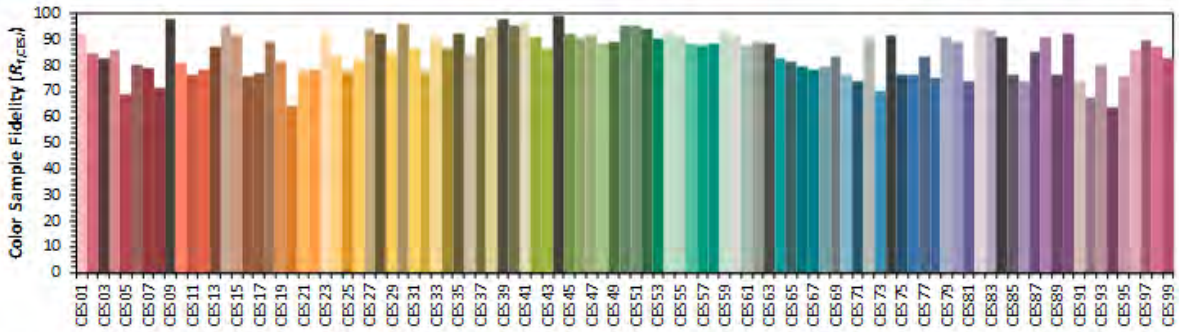












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

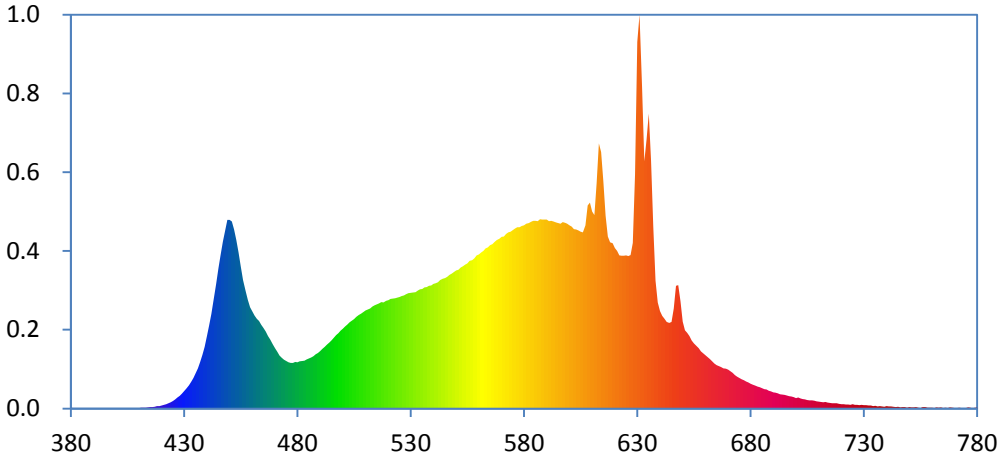
x	0.4086
y	0.3839
u'	0.2407
v'	0.5089

CIE 13.3-1995 (CRI)

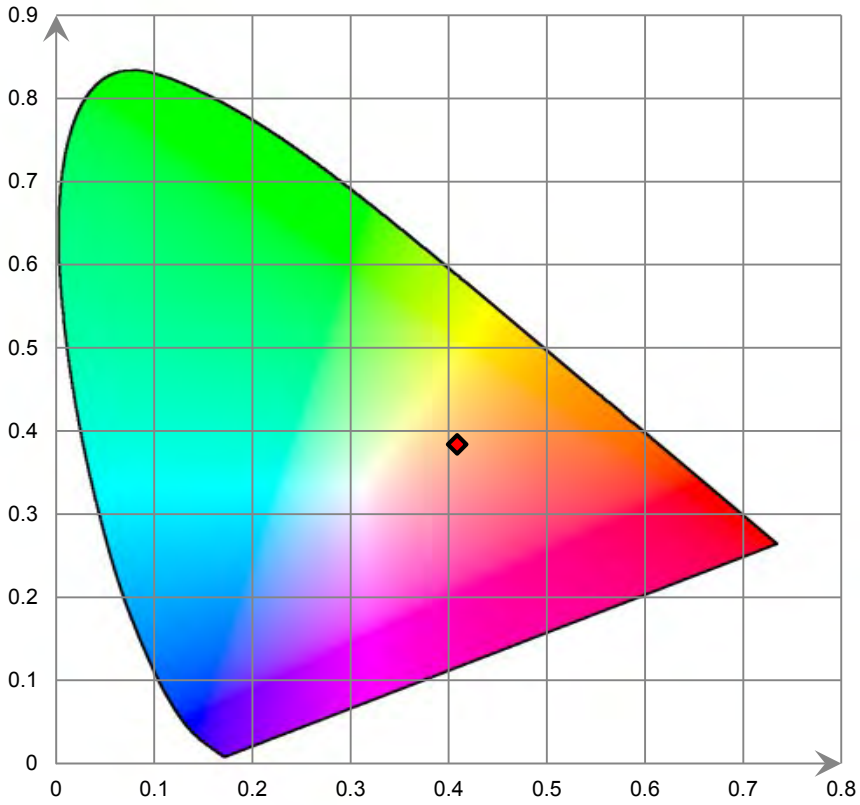
R_a	86
R_9	26

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

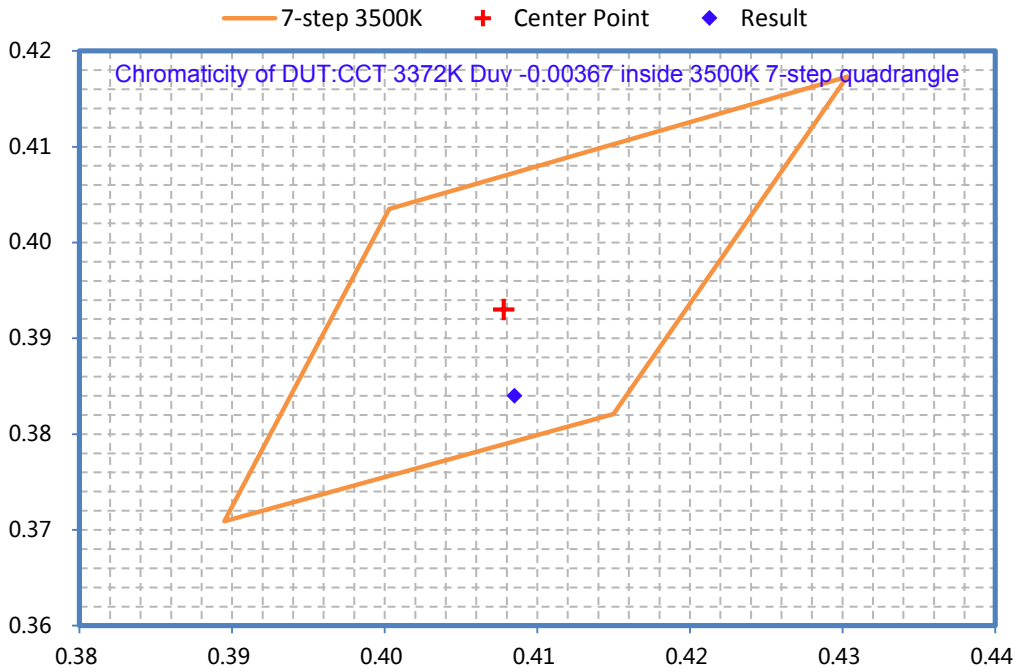
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model:LA22P205CUW
Control setting: 5000K & 20W 100% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2753.4	≥750	≥675	Pass
Power(W)	20.6	None.	None.	N/A
Total Efficacy(lm/W)	133.64	≥125	≥121.25	Pass
CCT(K)	4822	4746~5312	No tolerances	Pass
Duv	0.00056	-0.004~0.008	No tolerances	Pass
IES R_f	84	70	69	Pass
IES R_g	96	89	88	
IES Rcs,h1	-12%	-12%~23%	-13%~24%	
R_a	84.3	≥80	≥79	
R_9	17	≥0	≥-1	

Goniophotometer Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2754.04	≥750	≥675	Pass
Power(W)	20.6	None.	None.	N/A
Total Efficacy(lm/W)	133.69	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	80.06%	0-60°≥40%	0-60°≥37%	Pass

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9945	≥0.9	⩾0.87	Pass
120	THDi	5.78%	≤20%	⩽25%	Pass
277	Power Factor	0.9538	≥0.9	⩾0.87	Pass
277	THDi	11.57%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

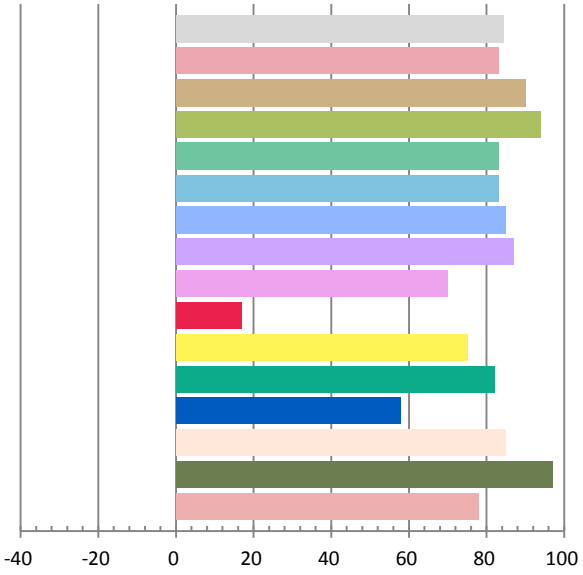
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1726	20.6	0.9945	2753.4	133.64

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
8.274	4822	0.00056	0.3505	0.3570	0.2130	0.4881

Color Rendering Index

Ra			
84.3			
R1	R2	R3	R4
83	90	94	83
R5	R6	R7	R8
83	85	87	70
R9	R10	R11	R12
17	75	82	58
R13	R14	R15	
85	97	78	



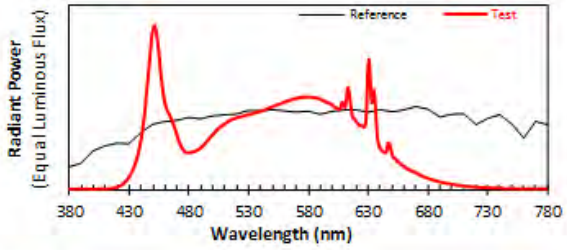
ANSI/IES TM-30-18 Color Rendition Report

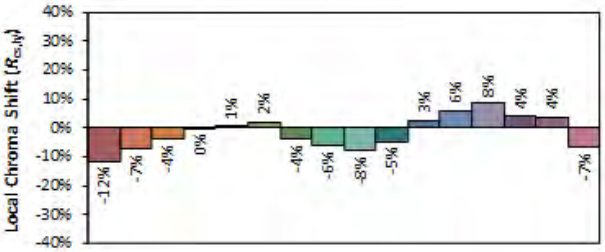
Source: User SPD

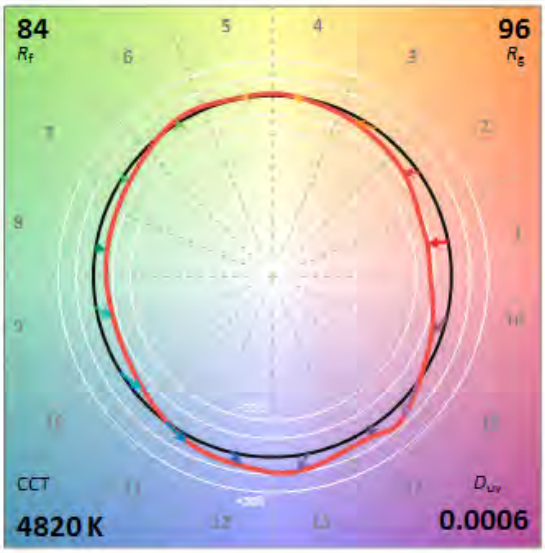
Date: 2026/3/23

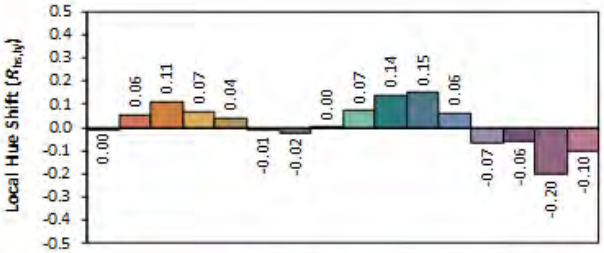
Manufacturer: P.Q.L., Inc.

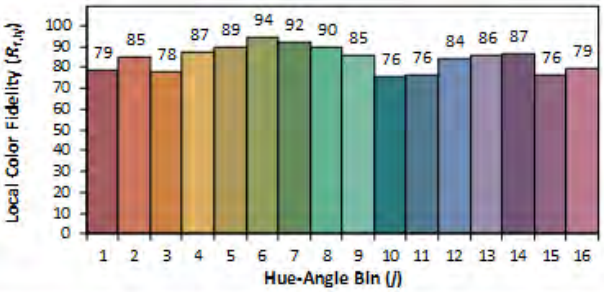
Model: LA22P205CUW-5000K

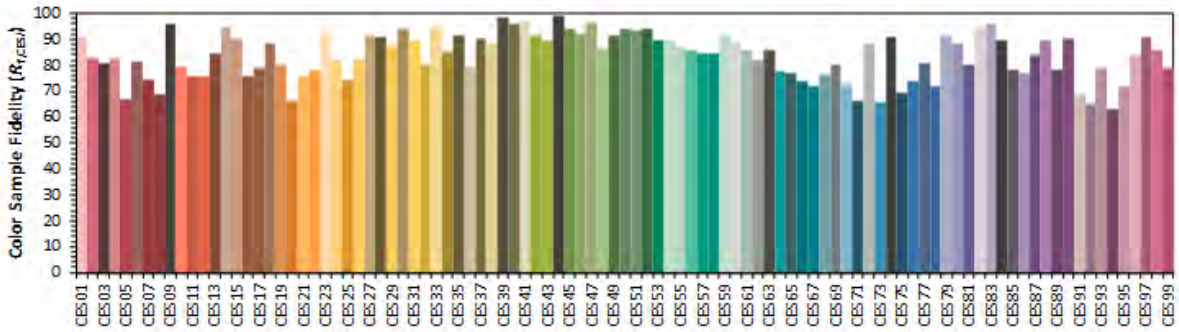












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

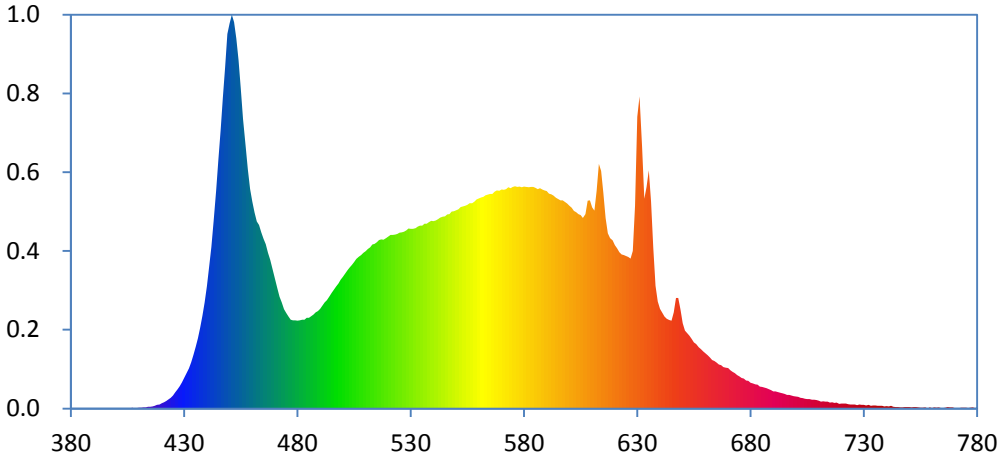
x	**0.3505**
y	**0.3570**
u'	**0.2130**
v'	**0.4881**

CIE 13.3-1995 (CRI)

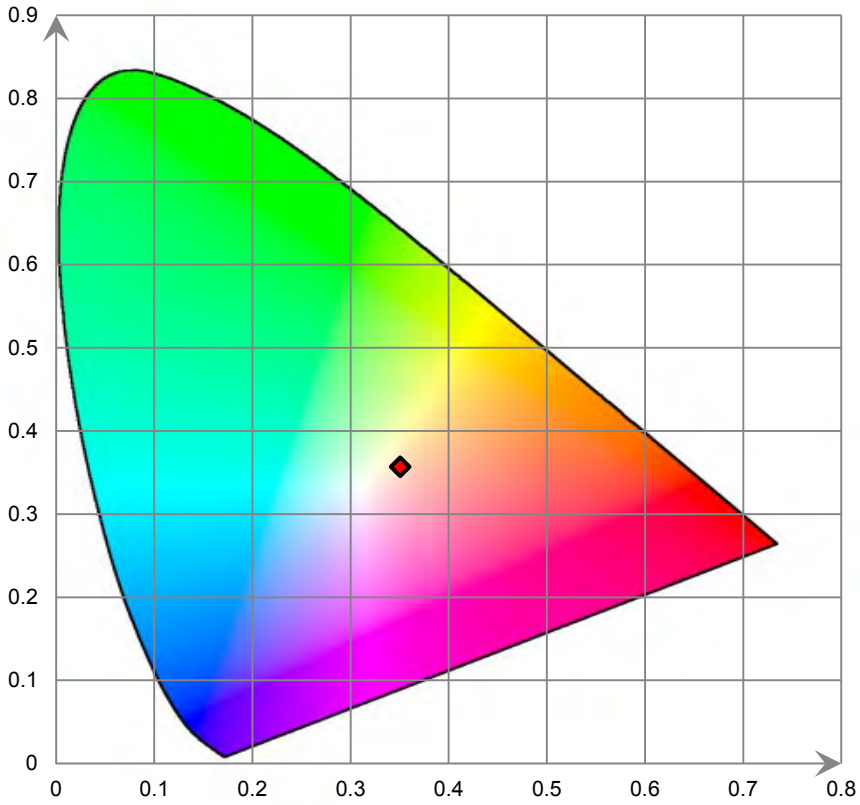
R_a	84
R_9	15

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

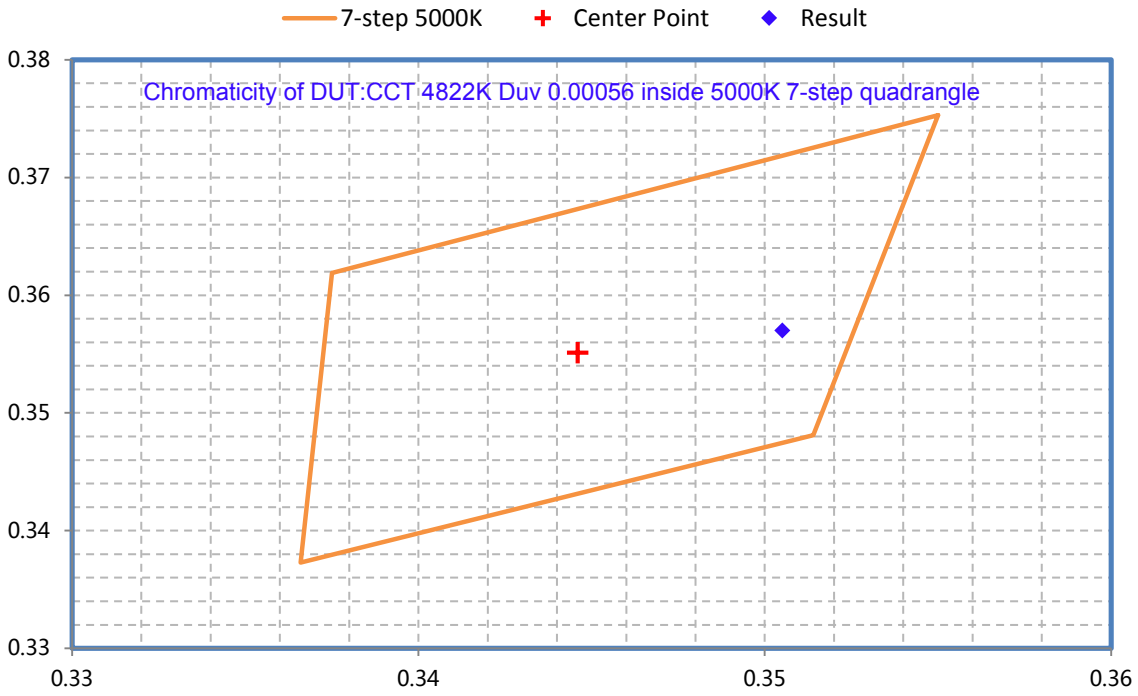
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

Electrical Measurement

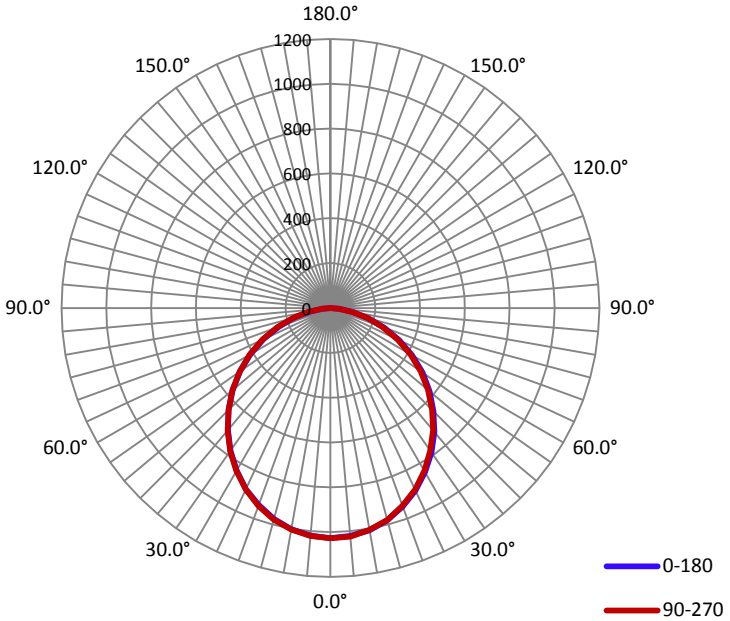
Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.173	20.6	0.995

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
2754.04	133.69	1028.5	1.22	1.22

Note: The electrical characteristics come from Integrating Sphere test result, Luminous intensity distribution derived from the goniophotometer testing of 20W 27K control setting.

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	107.7	107.3	107.1	107.2	107.3
Field Angle (10% I_{max}):	159.0	159.1	159.6	159.0	159.2

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7
5.0°	1021.6	1020.8	1020.7	1022.0	1023.3	1020.8	1021.5	1020.8
10.0°	1006.4	1005.9	1004.0	1005.5	1005.8	1004.7	1005.6	1004.0
15.0°	980.0	977.8	976.1	977.5	978.6	976.2	977.0	976.3
20.0°	942.0	942.0	939.3	938.2	939.9	936.4	939.5	940.0
25.0°	898.0	900.0	892.5	892.0	893.5	891.7	895.5	895.3
30.0°	844.7	844.7	839.1	838.8	838.8	836.8	840.5	839.4
35.0°	786.8	784.8	777.7	774.6	777.3	776.1	779.8	781.0
40.0°	721.5	719.7	712.6	708.4	711.9	707.5	713.2	715.4
45.0°	650.3	650.9	642.8	638.4	642.8	637.6	642.2	646.5
50.0°	577.7	575.9	568.1	561.1	567.3	561.1	567.7	573.8
55.0°	501.2	497.9	492.6	483.2	490.9	484.0	491.6	495.8
60.0°	420.5	417.7	413.5	401.9	411.6	402.3	411.2	415.8
65.0°	338.2	335.5	331.6	321.3	329.7	321.9	329.4	335.1
70.0°	254.5	253.9	248.0	241.4	247.4	240.2	246.2	251.2
75.0°	173.3	172.5	167.3	165.1	170.1	164.3	166.8	170.2
80.0°	99.9	98.5	97.1	96.2	98.7	95.4	96.2	96.9
85.0°	40.2	39.4	38.7	36.5	36.9	35.9	36.9	38.7
90.0°	1.3	1.4	1.7	0.7	0.0	0.8	1.4	1.9
95.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7	1026.7
5.0°	1019.4	1020.7	1021.4	1022.1	1021.4	1021.4	1021.8	1019.6
10.0°	1002.2	1003.9	1004.3	1004.7	1004.3	1003.7	1004.8	1002.4
15.0°	974.1	975.3	976.0	975.0	977.7	975.7	977.5	975.8
20.0°	935.1	937.4	937.3	937.3	940.3	936.1	939.1	937.5
25.0°	891.7	894.2	890.5	890.3	893.8	890.3	892.7	893.7
30.0°	836.7	840.6	837.9	835.2	838.7	834.9	840.1	839.7
35.0°	777.4	781.2	776.5	776.2	779.0	773.8	778.6	778.8
40.0°	711.5	716.3	709.7	708.9	714.3	707.2	711.8	714.8
45.0°	641.4	644.7	640.8	638.6	643.3	635.9	642.2	643.3
50.0°	567.8	571.7	567.3	562.9	569.7	561.6	566.6	569.2
55.0°	490.9	494.6	489.8	485.5	493.6	483.6	489.1	492.5
60.0°	410.0	412.3	411.6	405.9	415.1	402.8	409.8	413.3
65.0°	328.8	331.7	330.7	324.9	333.9	322.9	328.4	330.6
70.0°	245.2	248.2	249.2	242.7	252.2	243.4	247.7	246.9
75.0°	164.6	168.9	169.7	165.5	173.6	165.1	168.4	167.2
80.0°	92.8	95.5	95.8	96.7	101.8	95.4	96.0	95.8
85.0°	35.3	37.2	36.9	37.2	37.9	35.7	36.4	36.8
90.0°	0.7	1.6	1.6	0.0	1.0	1.0	1.6	1.3
95.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Test Model: LA22P205CUW
Control setting: 5000K & 20W 50% up light+50% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2768.7	≥750	≥675	Pass
Power(W)	21.14	None.	None.	N/A
Total Efficacy(lm/W)	131	≥125	≥121.25	Pass
CCT(K)	4867	4746~5312	No tolerances	Pass
Duv	0.00049	-0.004~0.008	No tolerances	Pass
IES R_f	84	70	69	Pass
IES R_g	96	89	88	
IES Rcs,h1	-12%	-12%~23%	-13%~24%	
R_a	84.2	≥80	≥79	
R_9	17	≥0	≥-1	

Goniophotometer Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2768.48	≥750	≥675	Pass
Power(W)	21.14	None.	None.	N/A
Total Efficacy(lm/W)	130.96	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	40.83%	0-60°≥40%	0-60°≥37%	Pass

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9946	≥0.9	⩾0.87	Pass
120	THDi	5.85%	≤20%	⩽25%	Pass
277	Power Factor	0.9553	≥0.9	⩾0.87	Pass
277	THDi	11.52%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

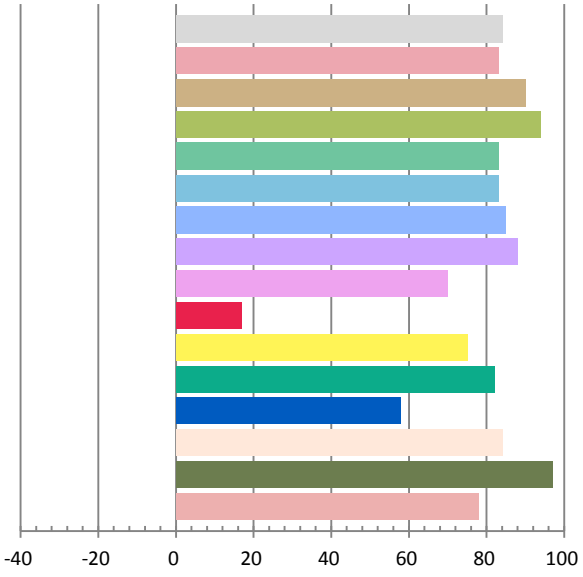
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1771	21.14	0.9946	2768.7	131

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
8.340	4867	0.00049	0.3491	0.3558	0.2125	0.4873

Color Rendering Index

Ra			
84.2			
R1	R2	R3	R4
83	90	94	83
R5	R6	R7	R8
83	85	88	70
R9	R10	R11	R12
17	75	82	58
R13	R14	R15	
84	97	78	



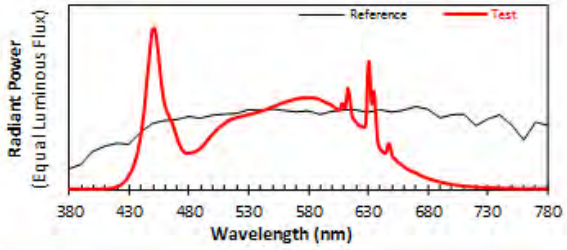
ANSI/IES TM-30-18 Color Rendition Report

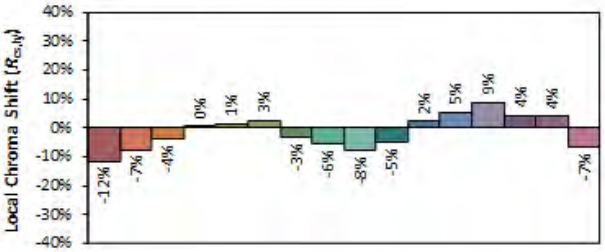
Source: User SPD

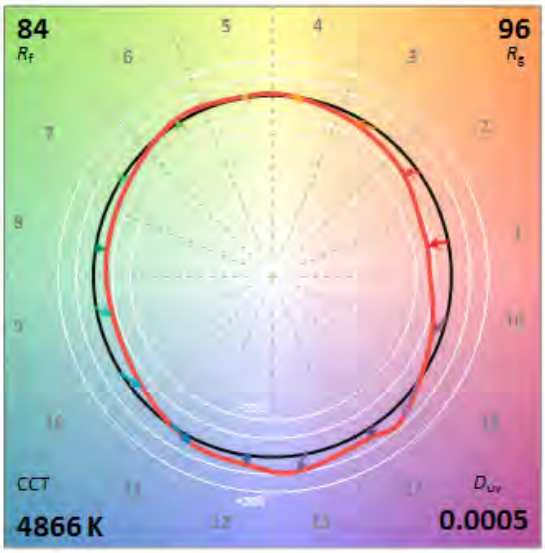
Date: 2026/3/23

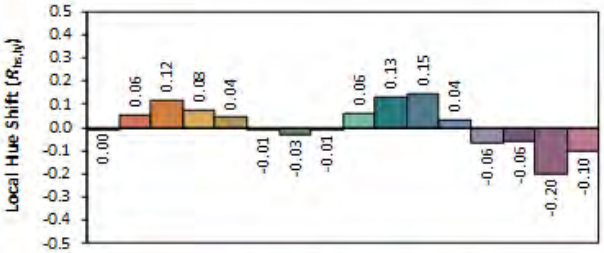
Manufacturer: P.Q.L., Inc.

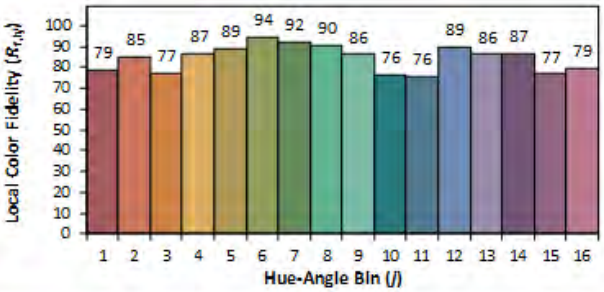
Model: LA22P205CUW-5000K

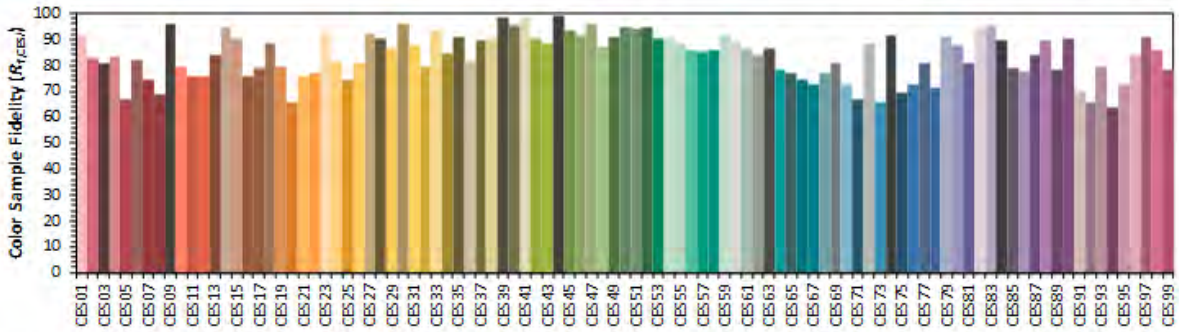












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

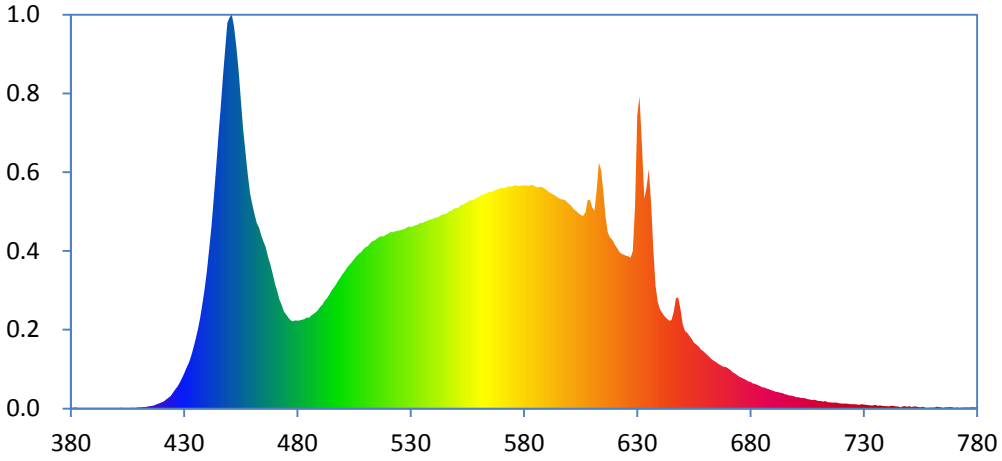
x	0.3491
y	0.3557
u'	0.2125
v'	0.4873

CIE 13.3-1995 (CRI)

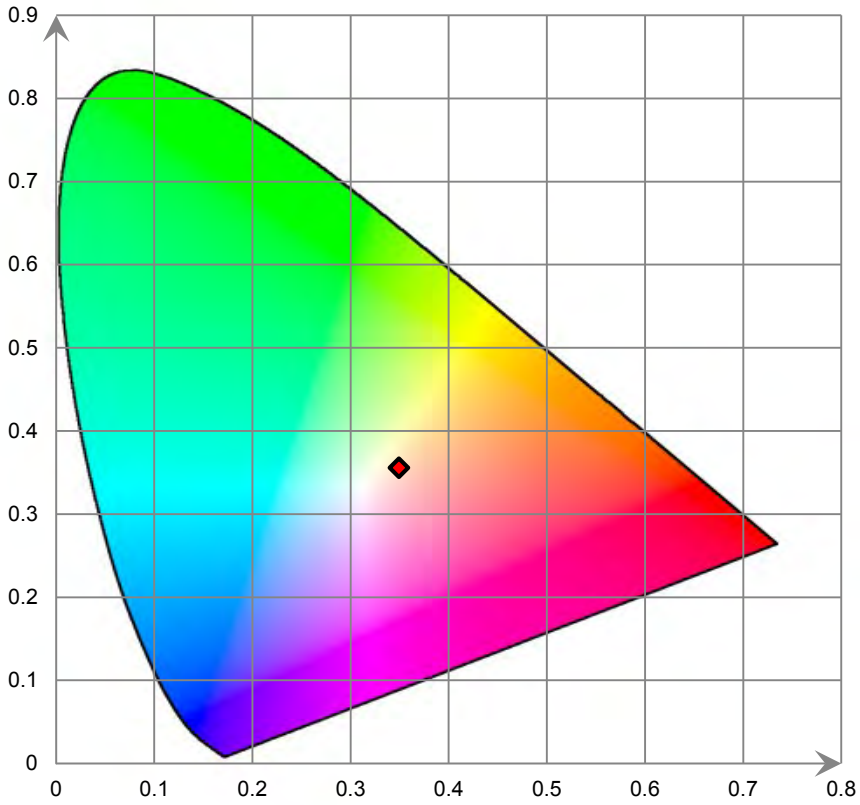
R_a	84
R_9	15

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

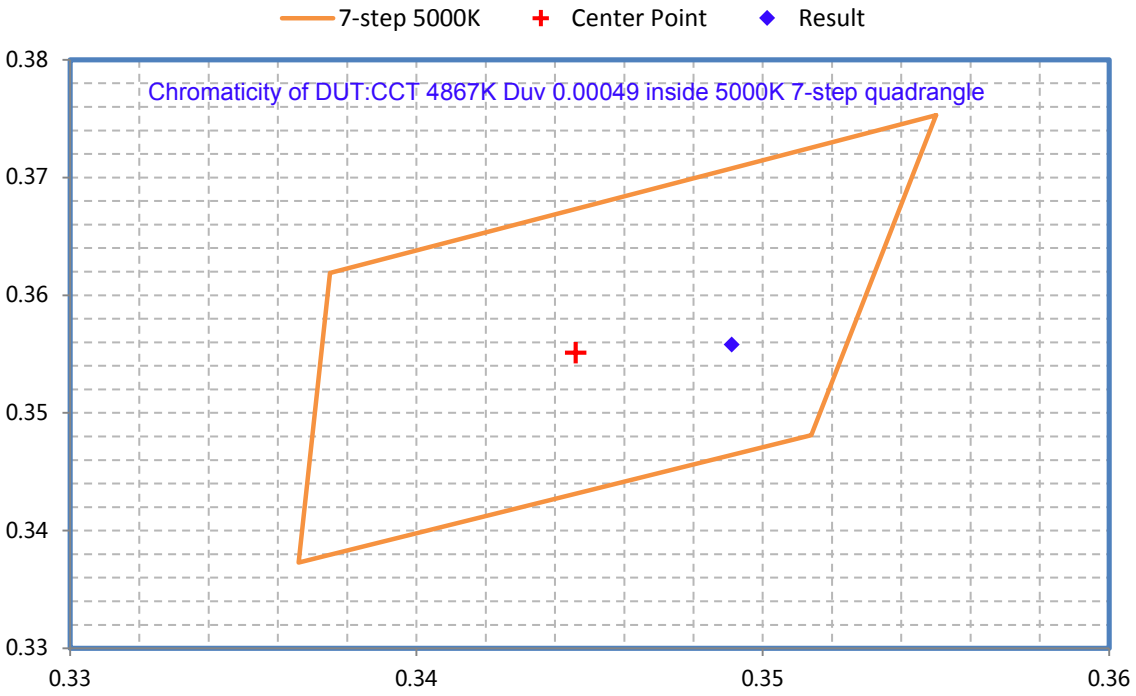
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

Electrical Measurement

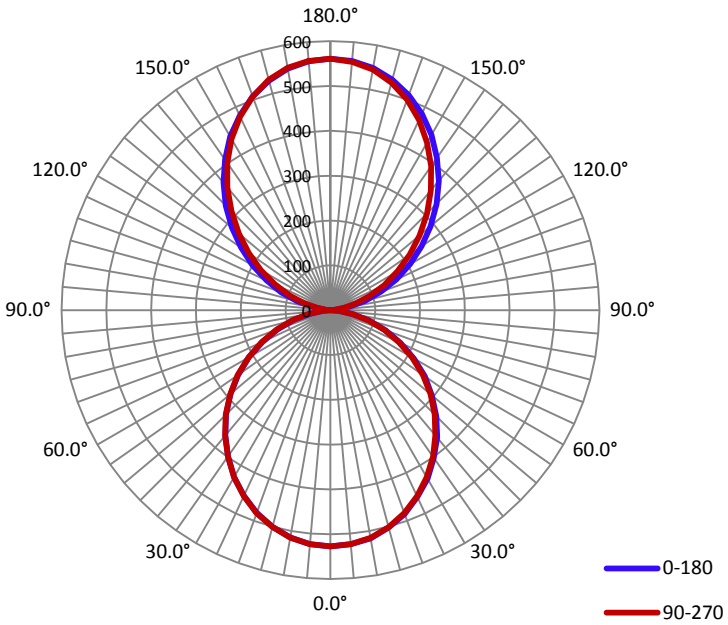
Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.177	21.14	0.995

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
2768.48	130.96	562.4	1.22	1.22

Note: The electrical characteristics come from Integrating Sphere test result, Luminous intensity distribution derived from the goniophotometer testing of 20W 27K control setting.

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	103.3	102.8	182.8	102.8	122.9
Field Angle (10% I_{max}):	204.3	207.0	209.0	207.5	207.0

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	526.6	526.6	526.6	526.6	526.6	526.6	526.6	526.6
5.0°	523.7	523.6	524.7	523.6	523.8	523.7	524.0	523.5
10.0°	516.6	515.4	516.2	513.9	515.4	514.8	514.9	515.0
15.0°	501.9	501.6	501.7	500.8	500.9	500.1	500.9	501.3
20.0°	483.7	483.1	483.1	481.1	482.1	480.8	481.4	482.7
25.0°	459.6	460.5	458.8	456.3	458.0	457.0	457.8	458.8
30.0°	433.6	433.4	430.4	428.8	430.1	428.8	430.6	431.2
35.0°	402.3	402.8	400.1	397.3	398.7	396.9	400.0	400.6
40.0°	370.5	368.8	366.7	363.3	364.5	363.4	365.6	367.8
45.0°	334.2	332.8	329.8	326.3	329.1	326.3	330.3	332.6
50.0°	295.7	294.6	292.3	287.4	291.5	288.0	292.0	293.6
55.0°	256.8	254.9	252.3	247.9	251.6	248.0	252.0	254.2
60.0°	215.4	213.7	212.1	206.3	209.8	207.7	210.9	214.2
65.0°	172.7	171.1	170.0	165.1	168.5	165.4	168.9	171.8
70.0°	131.2	130.1	127.5	123.5	127.6	123.7	126.5	129.0
75.0°	89.2	88.4	86.6	84.9	87.6	85.3	85.7	88.0
80.0°	49.9	49.7	49.7	49.1	50.3	48.5	49.4	49.7
85.0°	19.3	19.1	19.7	18.3	19.1	18.9	19.2	19.8
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
95.0°	12.5	11.8	10.3	8.4	8.5	8.6	9.7	12.0
100.0°	42.9	39.8	33.9	30.8	30.0	31.0	33.3	38.5
105.0°	79.9	75.3	66.1	59.7	58.5	59.0	63.8	73.9
110.0°	120.1	114.1	103.4	94.7	93.0	94.8	100.8	113.4
115.0°	162.0	155.5	144.7	135.1	131.9	133.8	141.4	154.6
120.0°	205.4	198.8	185.8	176.2	173.4	175.1	183.0	198.0
125.0°	248.6	242.3	228.8	217.6	216.2	217.6	226.8	241.4
130.0°	291.3	285.9	272.8	261.4	259.8	260.5	271.6	285.4
135.0°	334.5	328.0	317.1	305.5	304.7	304.8	315.2	328.7
140.0°	376.2	370.8	359.9	349.7	348.3	348.3	357.8	370.0
145.0°	414.5	411.4	401.4	392.8	392.1	391.3	400.5	410.2
150.0°	451.6	448.8	440.6	433.2	431.6	431.9	438.8	448.6
155.0°	483.2	481.4	474.6	469.6	468.3	469.0	473.8	481.1
160.0°	510.1	510.0	505.0	501.4	499.7	501.5	505.4	511.1
165.0°	532.6	532.1	529.6	526.5	525.7	526.4	529.3	532.0
170.0°	548.7	548.3	547.4	545.7	545.2	545.1	547.4	548.8
175.0°	558.0	558.1	557.9	557.0	555.6	557.5	556.4	558.8
180.0°	561.2	561.2	561.2	561.2	561.2	561.2	561.2	561.2

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	526.6	526.6	526.6	526.6	526.6	526.6	526.6	526.6
5.0°	523.6	523.7	525.9	523.0	524.0	523.7	523.5	523.7
10.0°	514.5	515.0	515.7	514.4	515.4	514.4	514.8	514.9
15.0°	500.4	501.0	501.8	499.9	500.7	499.9	500.7	500.5
20.0°	481.1	481.3	482.2	480.3	481.6	480.8	481.6	481.5
25.0°	457.0	458.6	457.7	456.3	457.2	456.0	457.1	457.9
30.0°	429.6	431.2	430.0	427.8	430.0	427.8	430.2	430.6
35.0°	398.2	399.7	398.5	397.1	398.3	396.3	398.5	399.7
40.0°	364.2	366.3	365.0	362.8	365.9	361.3	364.8	366.4
45.0°	329.0	330.6	329.2	326.6	329.7	325.6	328.1	330.0
50.0°	291.2	292.9	290.8	287.8	291.8	287.5	290.2	292.2
55.0°	251.3	252.1	251.3	248.5	252.8	247.7	250.8	252.4
60.0°	209.2	211.1	210.9	207.4	211.1	206.1	209.6	212.0
65.0°	167.4	169.2	169.3	166.3	169.7	165.1	168.1	169.7
70.0°	125.4	126.6	126.8	123.9	128.5	124.6	125.9	126.9
75.0°	84.1	85.9	85.4	84.6	88.7	84.4	85.0	85.8
80.0°	45.3	47.7	48.2	48.9	50.9	48.2	48.7	48.6
85.0°	16.4	17.6	18.4	18.0	19.0	18.2	18.3	18.1
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
95.0°	9.7	11.2	9.6	8.3	8.6	8.6	9.6	8.7
100.0°	38.6	37.9	33.4	31.8	30.7	31.4	33.0	37.0
105.0°	76.4	74.2	67.0	61.1	60.5	60.4	65.1	73.9
110.0°	116.7	113.7	106.2	97.8	96.6	96.0	103.6	114.1
115.0°	157.7	155.9	148.2	138.7	136.1	137.4	145.8	155.8
120.0°	200.1	198.8	191.0	181.1	178.6	179.8	188.4	199.0
125.0°	243.2	242.4	234.8	224.6	222.1	222.8	231.9	241.8
130.0°	287.3	285.3	279.5	269.6	266.6	268.0	276.2	285.3
135.0°	329.8	330.3	323.3	314.4	312.3	313.9	319.9	329.2
140.0°	371.3	372.3	366.8	359.8	357.3	358.6	364.0	372.4
145.0°	410.1	411.8	407.8	402.3	400.3	402.7	406.1	412.3
150.0°	447.3	448.9	446.1	441.8	441.1	442.7	444.4	449.1
155.0°	478.9	481.9	480.2	477.5	476.3	479.1	478.5	483.2
160.0°	507.3	510.7	509.6	507.7	506.4	509.8	508.0	510.2
165.0°	529.7	532.5	533.0	532.2	531.7	532.6	529.6	532.9
170.0°	546.9	548.7	549.7	550.2	549.1	550.7	547.9	548.6
175.0°	557.2	558.4	559.1	559.1	557.9	559.2	559.0	558.3
180.0°	561.2	561.2	561.2	561.2	561.2	561.2	561.2	561.2

Test Model:LA22P205CUW
Control setting: 5000K & 20W 30% up light+70% down light

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2781.8	≥750	≥675	Pass
Power(W)	20.94	None.	None.	N/A
Total Efficacy(lm/W)	132.87	≥125	≥121.25	Pass
CCT(K)	4843	4746~5312	No tolerances	Pass
Duv	0.00062	-0.004~0.008	No tolerances	Pass
IES R_f	84	70	69	Pass
IES R_g	96	89	88	
IES Rcs,h1	-12%	-12%~23%	-13%~24%	
R_a	84.2	≥80	≥79	
R_9	16	≥0	≥-1	

Goniophotometer Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	2782.19	≥750	≥675	Pass
Power(W)	20.94	None.	None.	N/A
Total Efficacy(lm/W)	132.86	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	56.85%	0-60°≥40%	0-60°≥37%	Pass

Integrating Sphere THDi、PF Test; Orientation: Downward;

Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9946	≥0.9	⩾0.87	Pass
120	THDi	5.82%	≤20%	⩽25%	Pass
277	Power Factor	0.9545	≥0.9	⩾0.87	Pass
277	THDi	11.53%	≤20%	⩽25%	Pass

Note:
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V6.0.
3. The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.

Test Data

[Integrating Sphere System]

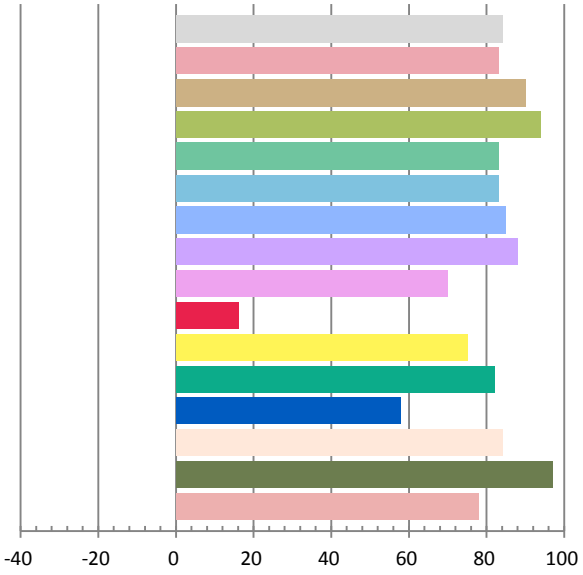
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.1754	20.94	0.9946	2781.8	132.87

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
8.362	4843	0.00062	0.3498	0.3566	0.2127	0.4878

Color Rendering Index

Ra			
84.2			
R1	R2	R3	R4
83	90	94	83
R5	R6	R7	R8
83	85	88	70
R9	R10	R11	R12
16	75	82	58
R13	R14	R15	
84	97	78	



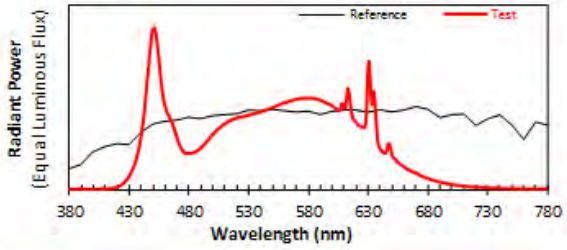
ANSI/IES TM-30-18 Color Rendition Report

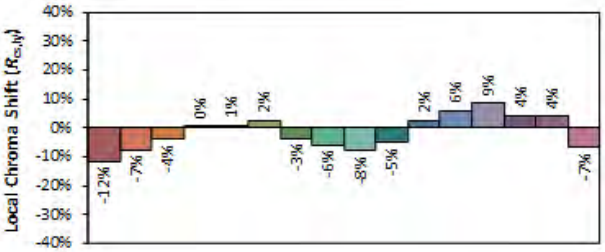
Source: User SPD

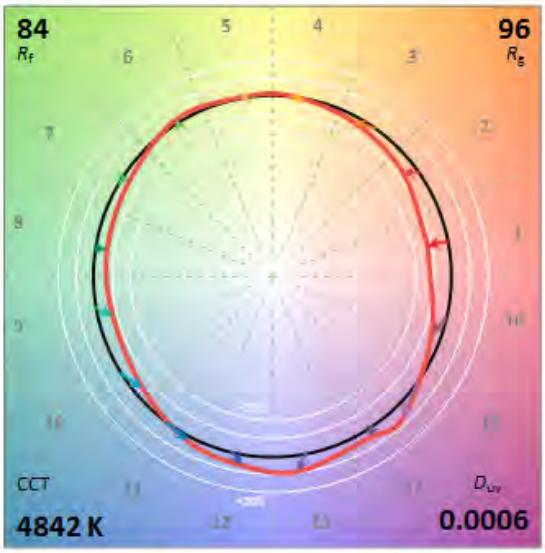
Date: 2026/3/23

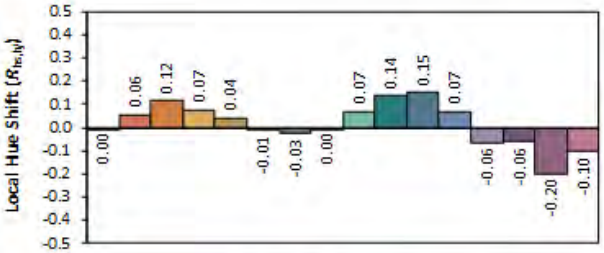
Manufacturer: P.Q.L., Inc.

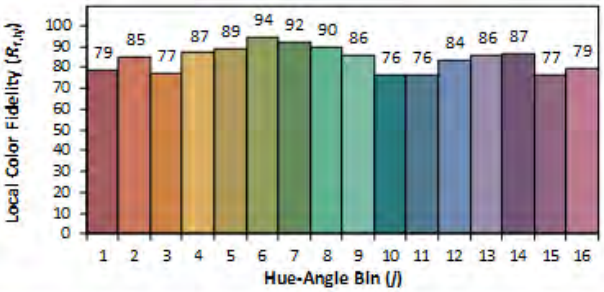
Model: LA22P205CUW-5000K

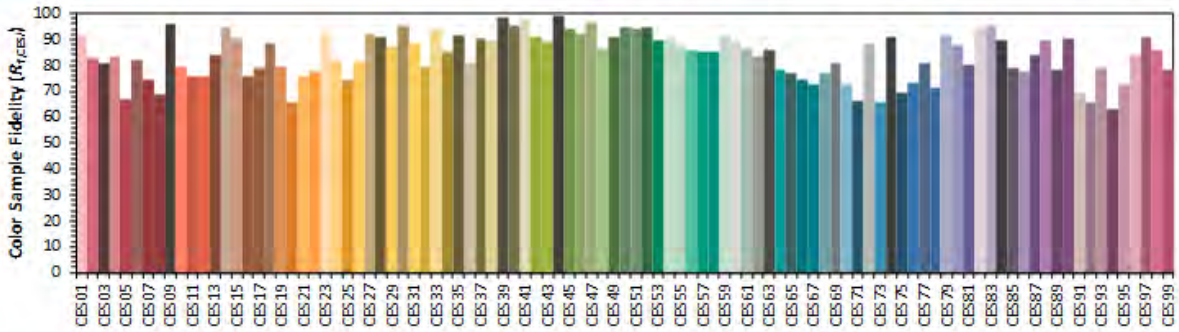












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

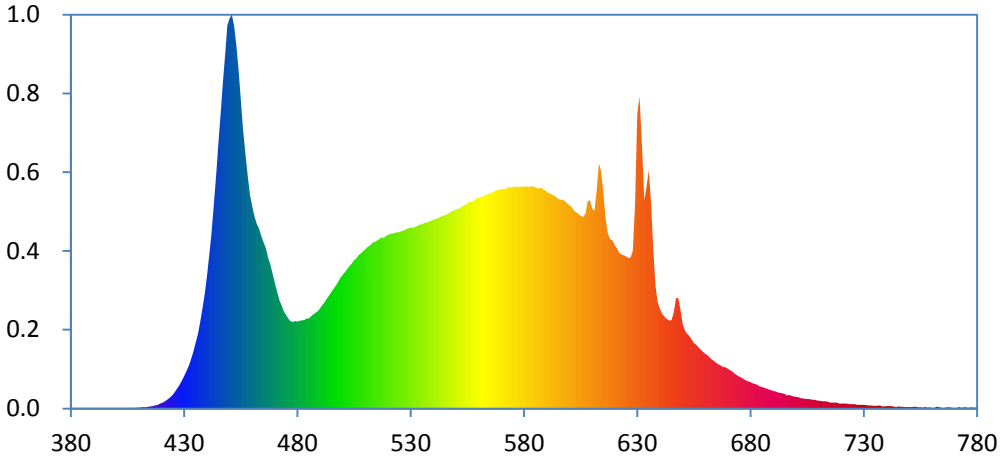
x	**0.3499**
y	**0.3566**
u'	**0.2127**
v'	**0.4878**

CIE 13.3-1995 (CRI)

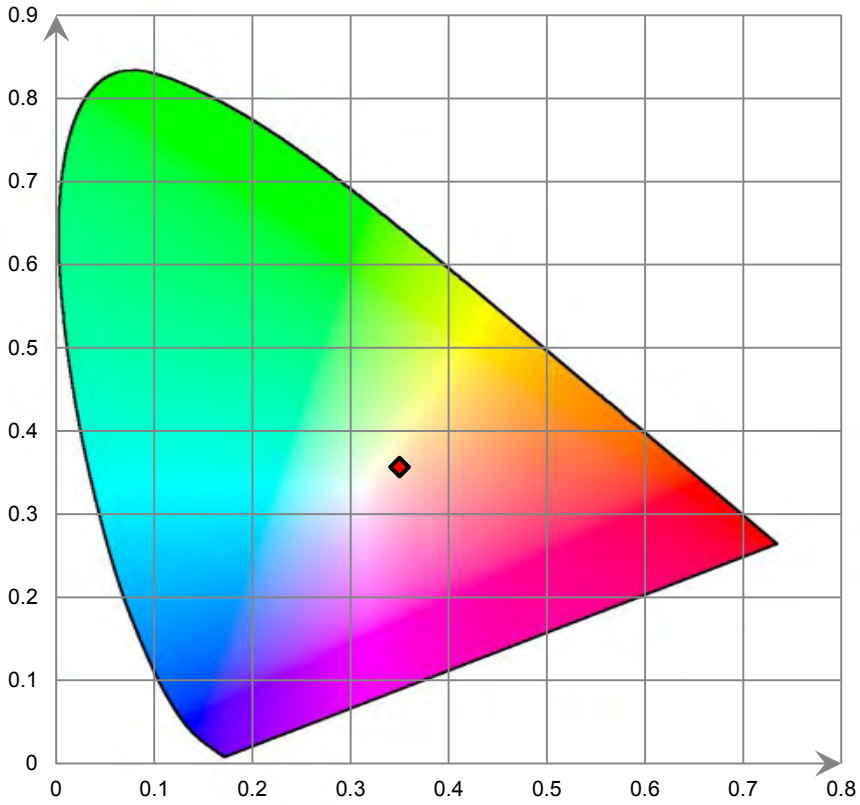
R_a	84
R_9	15

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

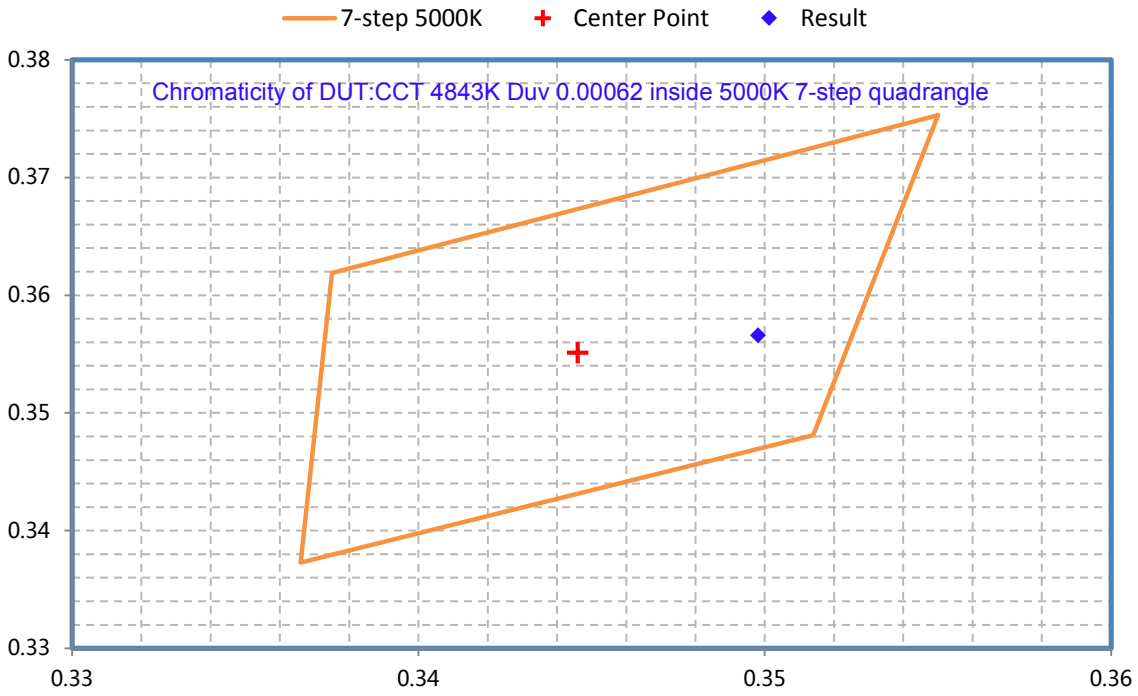
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

Electrical Measurement

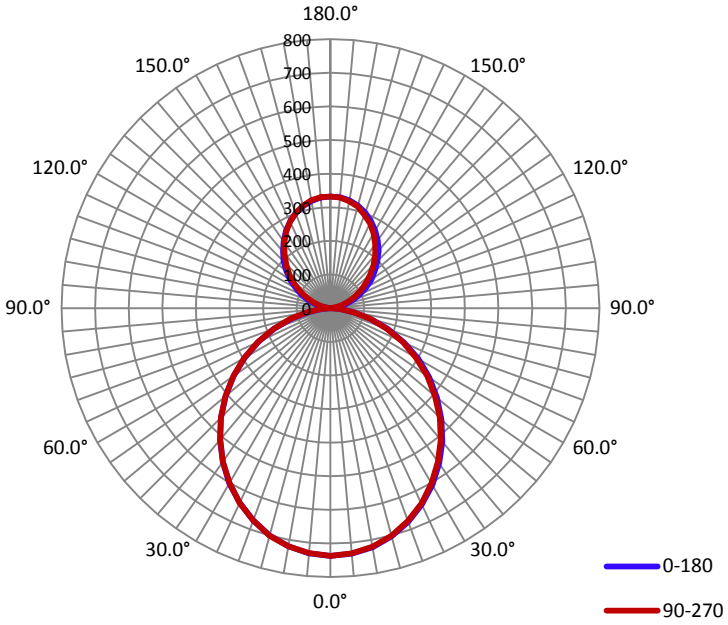
Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.175	20.94	0.995

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I_{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
2782.19	132.86	737.0	1.22	1.22

Note: The electrical characteristics come from Integrating Sphere test result, Luminous intensity distribution derived from the goniophotometer testing of 20W 27K control setting.

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I_{max}):	107.7	107.2	107.0	107.1	107.3
Field Angle (10% I_{max}):	221.3	159.1	227.3	191.9	199.9

Luminous Intensity (cd) Distribution Data

C / γ	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	736.7	736.7	736.7	736.7	736.7	736.7	736.7	736.7
5.0°	733.3	733.6	732.8	732.1	732.4	733.4	732.4	732.7
10.0°	721.8	721.9	720.0	720.6	720.6	721.6	721.0	720.8
15.0°	703.2	703.5	700.8	700.7	700.8	701.0	700.3	701.3
20.0°	676.7	677.1	673.9	674.8	673.6	673.5	674.3	675.1
25.0°	643.9	644.2	640.6	640.2	640.7	641.4	641.7	641.7
30.0°	606.5	607.7	601.7	601.8	601.8	600.7	603.6	604.1
35.0°	563.8	564.7	560.0	557.1	557.9	556.8	559.9	561.5
40.0°	517.8	517.1	510.9	508.9	511.3	509.0	513.2	515.3
45.0°	466.8	466.0	461.8	457.4	459.6	457.3	461.6	464.4
50.0°	414.0	414.1	408.7	403.4	406.7	403.8	407.9	412.1
55.0°	359.0	358.6	354.4	348.8	351.7	347.0	353.4	356.6
60.0°	301.6	299.7	296.7	289.3	293.8	290.0	294.6	298.8
65.0°	242.8	241.2	238.3	231.0	236.7	231.3	235.9	240.3
70.0°	182.4	181.3	178.6	174.2	177.9	173.3	177.6	180.6
75.0°	124.6	123.8	121.6	119.2	122.8	118.6	119.8	123.3
80.0°	71.0	70.8	69.5	68.7	70.9	69.1	68.9	69.5
85.0°	28.4	28.3	27.7	25.9	26.9	26.0	26.7	27.7
90.0°	0.0	0.9	1.1	0.9	0.9	0.0	0.0	1.5
95.0°	8.6	8.1	6.7	5.6	5.6	5.5	6.2	7.9
100.0°	26.4	24.4	20.7	18.8	18.5	18.7	20.0	23.5
105.0°	48.5	45.2	39.3	36.1	35.2	35.4	38.4	44.5
110.0°	71.8	68.1	62.0	57.2	55.6	56.3	60.4	67.5
115.0°	96.8	93.2	85.7	79.9	78.4	79.8	84.1	91.7
120.0°	122.7	118.5	111.1	103.6	103.3	103.9	108.4	117.4
125.0°	148.1	144.2	136.1	129.9	128.1	129.2	133.9	143.2
130.0°	173.0	169.7	162.0	154.9	153.7	154.8	160.1	168.5
135.0°	198.2	195.1	187.4	181.6	180.9	181.0	187.1	194.3
140.0°	223.8	220.0	213.8	207.5	206.8	206.8	212.6	219.4
145.0°	246.2	244.9	237.5	232.7	232.4	231.3	236.4	242.7
150.0°	267.1	266.0	261.4	256.5	256.5	255.5	259.5	266.0
155.0°	285.7	285.9	281.4	278.3	278.0	276.9	280.0	285.0
160.0°	303.0	302.2	300.0	297.9	295.9	295.9	298.6	300.9
165.0°	315.8	314.8	313.1	312.4	312.7	311.1	314.0	315.6
170.0°	325.7	325.2	323.9	323.4	323.0	323.3	323.6	324.3
175.0°	331.1	330.7	330.6	331.2	330.3	329.5	329.3	329.8
180.0°	332.2	332.2	332.2	332.2	332.2	332.2	332.2	332.2

Luminous Intensity (cd) Distribution Data (cont.)

C / γ	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	736.7	736.7	736.7	736.7	736.7	736.7	736.7	736.7
5.0°	732.1	732.7	732.4	731.7	731.5	732.7	732.2	732.7
10.0°	719.7	721.5	720.6	720.3	718.8	719.7	720.4	721.0
15.0°	699.7	700.2	699.6	698.8	700.5	699.5	700.7	701.4
20.0°	671.6	673.9	673.5	672.2	671.8	671.6	673.1	674.7
25.0°	638.4	641.1	639.7	639.2	638.9	637.9	640.4	641.2
30.0°	601.0	603.4	600.7	599.4	600.6	597.8	601.6	602.9
35.0°	557.4	560.0	557.2	555.4	557.5	553.9	557.4	559.7
40.0°	510.3	513.4	510.0	507.6	510.1	506.5	509.7	512.0
45.0°	460.6	462.1	459.0	457.1	460.3	455.0	460.4	462.6
50.0°	406.6	409.0	406.0	404.0	407.1	401.8	406.5	408.8
55.0°	351.2	353.6	351.2	347.7	352.1	345.9	351.0	354.2
60.0°	293.6	295.7	295.0	289.8	295.8	289.6	293.2	295.4
65.0°	235.0	236.6	236.8	231.9	238.0	232.3	234.9	236.5
70.0°	175.9	177.1	177.5	174.1	180.0	173.0	175.9	177.3
75.0°	118.2	120.4	121.0	119.0	123.3	117.8	119.6	120.4
80.0°	65.2	68.5	68.8	68.0	71.5	68.7	68.0	67.8
85.0°	23.9	26.3	26.4	25.7	26.7	25.8	26.3	25.9
90.0°	0.0	0.0	1.1	0.0	0.0	0.7	0.9	1.4
95.0°	7.1	7.2	6.5	5.6	5.6	5.5	6.2	5.5
100.0°	23.9	23.5	20.6	19.5	19.0	19.1	20.2	22.4
105.0°	46.1	45.3	40.4	37.3	36.9	36.8	39.3	44.1
110.0°	69.8	68.9	63.7	58.8	58.0	58.0	62.0	67.9
115.0°	94.2	93.5	88.8	83.1	82.0	81.6	87.2	93.0
120.0°	119.3	118.4	114.0	108.4	106.8	106.8	112.5	117.9
125.0°	144.9	144.5	139.7	134.2	133.3	132.6	138.3	144.0
130.0°	170.4	170.5	166.4	160.7	159.9	159.5	164.1	169.4
135.0°	196.0	196.7	192.0	186.9	185.6	186.5	190.7	194.8
140.0°	219.7	221.0	218.1	214.7	212.6	212.8	216.6	219.7
145.0°	243.0	245.0	242.4	239.9	238.5	238.3	240.6	243.7
150.0°	265.2	267.0	265.3	263.2	262.7	261.9	263.8	265.5
155.0°	284.0	286.3	284.6	283.4	283.6	283.4	283.7	284.9
160.0°	300.5	303.5	301.6	302.0	301.3	301.4	301.5	301.4
165.0°	314.2	316.0	315.7	315.8	315.5	316.6	314.9	314.0
170.0°	323.5	327.1	325.1	326.1	326.7	325.6	324.2	325.0
175.0°	330.2	331.0	331.7	331.9	331.0	331.3	330.6	331.1
180.0°	332.2	332.2	332.2	332.2	332.2	332.2	332.2	332.2

6. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
Integrating Sphere	INVENTFINE	Dia 1.5m	JWWCV090112	2025-06-18	2026-06-17
Power Meter	INVENTFINE	WT500	GSJWQ20009	2025-04-10	2026-04-09
Spectral photometer	INVENTFINE	CMS-3S	GSGSE100017	2025-06-18	2026-06-17
AC Power Supply	INVENTFINE	CHP500	JWJSD010071	2025-04-10	2026-04-09
Standard Light Source	Osram	24V/50W	JWWCR020105	2025-07-10	2027-07-09
Thermal Meter	ANYMETRE	TH-20E	N/A	2025-06-10	2026-06-09
DC Power Supply	INVENTFINE	WL3005	JWWCP020069	2025-04-10	2026-04-09
AC Power Supply	INVENTFINE	CHP-5KVA	900511765	2025-04-10	2026-04-09
DC Power Supply	INVENTFINE	WL3010	JWDMP030001	2025-04-10	2026-04-09
Power Meter	INVENTFINE	WT500	GSDSQ200007	2025-04-10	2026-04-09
Goniophotometer	INVENTFINE	GPM-1900	YWGCF120001	2025-06-03	2026-06-02
Wireless Weather Station	ZHONGXING	KG218	N/A	2025-04-08	2026-04-07
Standard Light Source	INVENTFINE	N/A	JWBYR040008	2025-11-02	2027-11-01
Digital Multimeter	FLUKE	115C	37840512WS	2025-04-10	2026-04-09
Hybrid Recorder	YOKOGAWA	DR230	47JH0903	2025-04-10	2026-04-09
Power Supply	SC	SC/BP-11003	1608110030553	2025-04-10	2026-04-09

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

7. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-19. The ambient temperature of the sample was maintained at 25°C±1°C during measurement. And relative humidity is less than 65%. The product was operated in its intended orientation in application during all testing.

Integrating Sphere System
The system includes AC power source, digital power meter, DC power supply, Spectroradiometer, and integrating sphere. The integrating sphere system is calibrated by standard spectrum light source before measurement. 4π geometry was used during measurement.

Goniophotometer System
Type C goniophotometer was used for measuring luminous intensity distribution. The vertical angle (γ) test intervals were set no more than 1 degree while data for 5 degree intervals is reported. The horizontal angle (C plane) test intervals were set no more than 22.5 degree.

ISTMT Test
The LED which has the highest temperature was measured at the location of LED case which is specified by LED source manufacturer and detailed by LM-80 report. The drive current of LED package/module/ array was calculated as the total output current of the driver measured by multimeter, divided by the number of branches in parallel of LEDs.

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with "#".
2. The test data was only valid for the test sample(s). This report must not be duplicated or used in part without prior written consent from the laboratory.
3. This report may contain data that are not covered by the accreditation scope and marked with "★".
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.
6. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

**********END OF REPORT**********