



TEST REPORT

For

Jiangsu Ever-tie Lighting Inc

No. 18, East Fuxing Road, NETDA, Jiangsu Province China

Model Number:	ETLPZ-24/DE/40/YDM/CCT/APP 830(A3+B7) ETLPZ-24/DE/40/YDM/CCT/APP 835(A3+B7) ETLPZ-24/DE/40/YDM/CCT/APP 840(A3+B7) ETLPZ-24/DE/40/YDM/CCT/APP 850(A3+B7)	
Report Type:	Electrical, Photometric and ISTMT tests according to the following standards and show the compliance to DLC Program SSL Technical Requirements V5.1	
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	
Report Number:	RKSB240528008-10	
Sample Size:	One sample was received on 2024-05-28 and used for testing.	
Test Date:	2024-05-29 to 2024-06-11	
Report Date:	2024-06-11	
Reviewed By:	Seven Xia/ EE Engineer	
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:	2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces
Voltage and Frequency:	120-277VAC, 60Hz
LED Source Manufacturer:	Bridgelux Inc.
LED Source Model:	BXEN-xxE-13H-9RA
Driver Model:	SIF 50-I1250 120-277 T D1 APP
Auxiliary Ballast Model:	NA
Auxiliary Housing Model:	NA
White Tunable:	Yes
Field-Adjustable Light Output:	NO

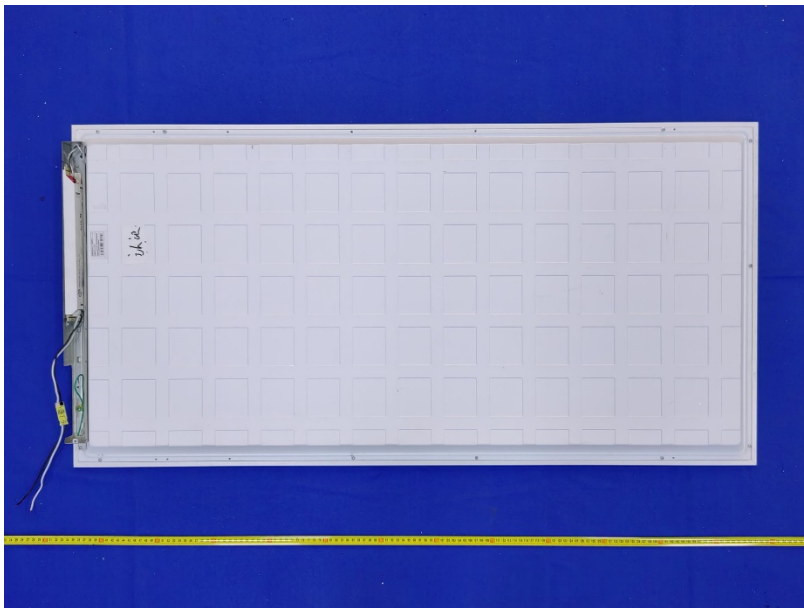
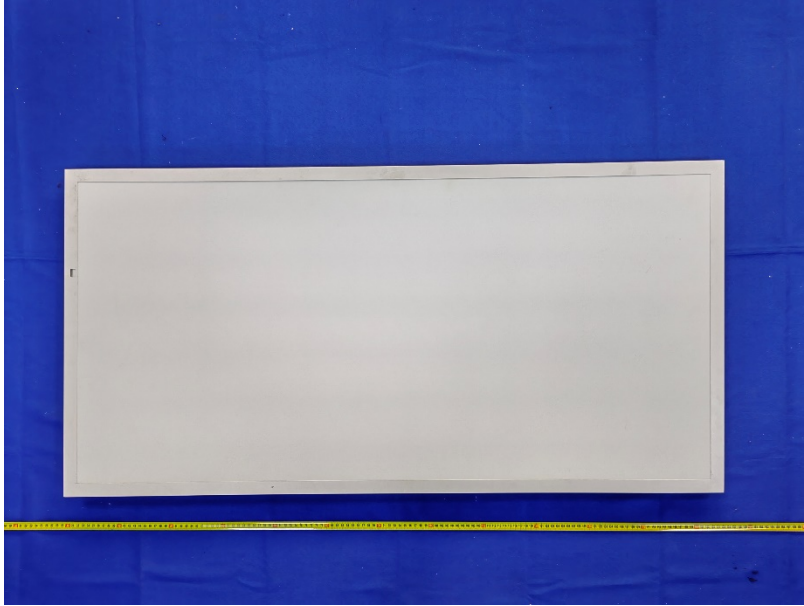
2. Product Rated Values#

Test Model	CCT(K)	Light Output (lm)	Power(W)	Luminous Efficacy (lm/W)
ETLPZ-24/DE/40/YDM/CCT/APP 830(A3+B7)	3000	5000	40	125
ETLPZ-24/DE/40/YDM/CCT/APP 835(A3+B7)	3500	5000		125
ETLPZ-24/DE/40/YDM/CCT/APP 840(A3+B7)	4000	5000		125
ETLPZ-24/DE/40/YDM/CCT/APP 850(A3+B7)	5000	5000		125

3. Test List

Test Model	Power(W)	Test Item			
		Goniophotometer Test	Integrating Sphere Test	THDi and PF Test	In-Situ Temperature Measurement Test
ETLPZ-24/DE/40/YDM/CCT/APP 830(A3+B7)	40	Yes	Yes	Yes	Yes
ETLPZ-24/DE/40/YDM/CCT/APP 835(A3+B7)		NA	Yes	Yes	NA
ETLPZ-24/DE/40/YDM/CCT/APP 840(A3+B7)		NA	Yes	Yes	NA
ETLPZ-24/DE/40/YDM/CCT/APP 850(A3+B7)		Yes	Yes	Yes	NA

4. Product Photo



LED Driver Photo



5. Test Result

Test Model: ETLPZ-24/DE/40/YDM/CCT/APP 830(A3+B7)

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

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	4859.1	≥3000	≥2700	Pass
Power(W)	39.68	None.	None.	N/A
Total Efficacy(lm/W)	122.46	≥125	≥121.25	Pass
CCT(K)	3069	None ⁱ	None.	N/A
Duv	-0.000527	None ⁱ	None.	N/A
IES R _r	85	70	69	Pass
IES R _g	97	89	88	
IES R _{cs,h1}	-11%	-12%~23%	-13%~24%	
R _a	83.3	≥80	≥79	
R ₉	9	≥0	≥-1	

Note:

- i. White-tunable products are not required to meet the chromaticity requirements in DLC V5.1.

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

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	4862.8	≥3000	≥2700	Pass
Power(W)	39.69	None.	None.	N/A
Total Efficacy(lm/W)	122.57	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	78.18%	0-60°≥75%	0-60°≥72%	Pass
SC:0-180°	1.27	1.0≤SC≤2.0	0.9≤SC≤2.1	Pass
SC:90-270°	1.26	1.0≤SC≤2.0	0.9≤SC≤2.1	Pass
UGR crosswise view	19.7	<22	No tolerances	Pass
UGR endwise view	19	<22	No tolerances	Pass

Integrating Sphere THDi、PF Test; Orientation: Downward;

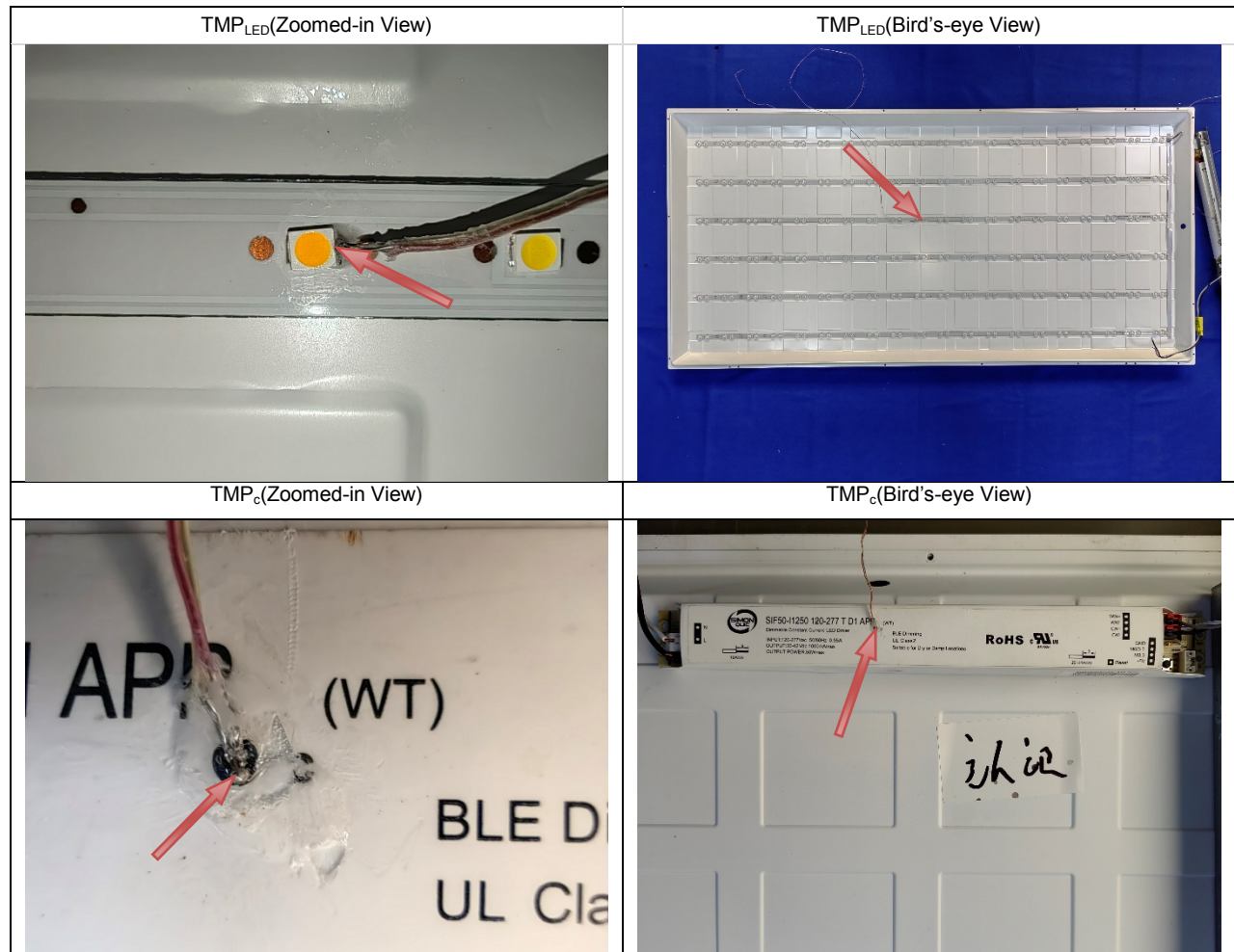
Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9947	≥0.9	≥0.87	Pass
120	THDi	5.24%	≤20%	≤25%	Pass
277	Power Factor	0.9304	≥0.9	≥0.87	Pass
277	THDi	12.43%	≤20%	≤25%	Pass

In-Situ Temperature Measurement Test: Test Voltage: 120.0V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
TMP _{LED} (°C)	34.1	≤105	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
TMP _c (°C)	57.3	≤90	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
Drive Current/Individual LED source(mA)	33	≤100	With +5% Tolerance	Pass
L ₉₀ Lumen Maintenance Life (Hours)	37000	≥36000	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 V5.1.
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]

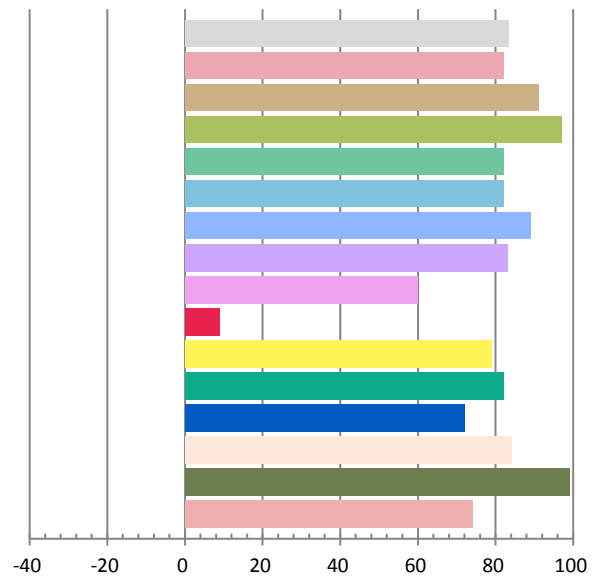
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.3325	39.68	0.9947	4859.1	122.46

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
14.747	3069	-0.000527	0.4314	0.4008	0.2484	0.5193

Color Rendering Index

Ra			
83.3			
R1	R2	R3	R4
82	91	97	82
R5	R6	R7	R8
82	89	83	60
R9	R10	R11	R12
9	79	82	72
R13	R14	R15	
84	99	74	



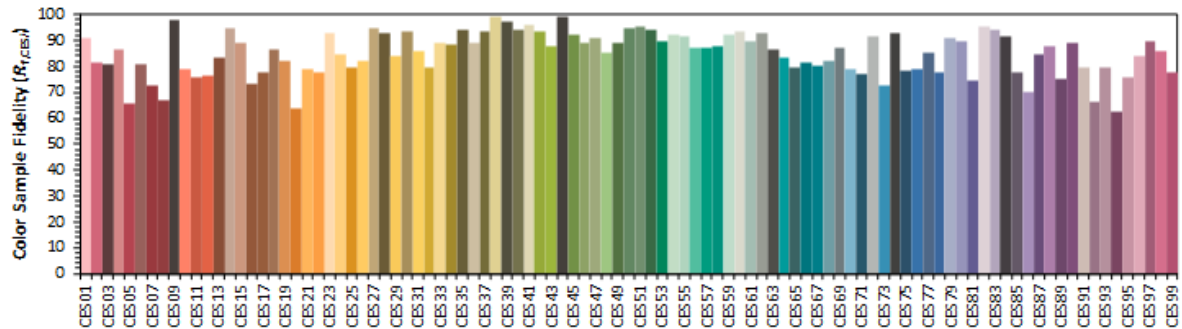
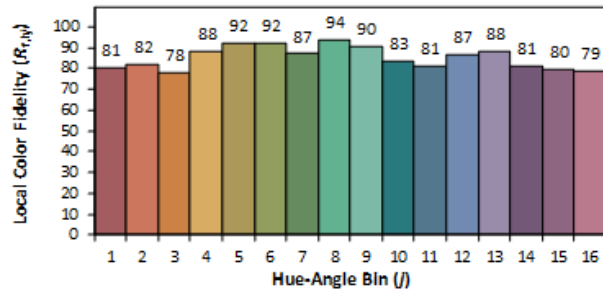
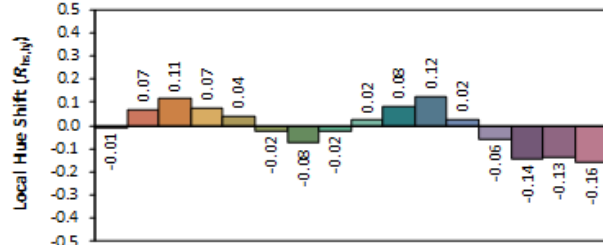
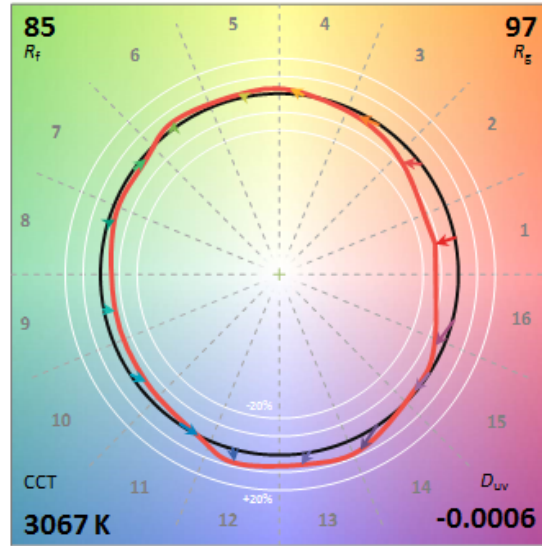
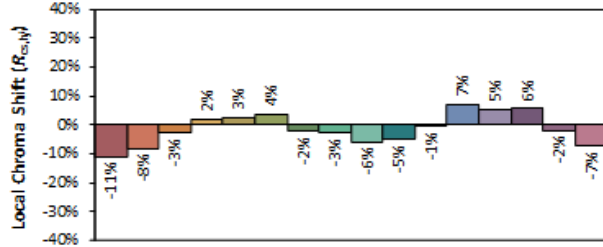
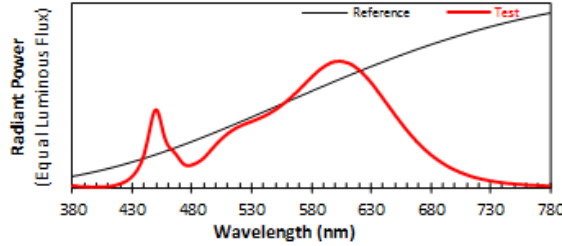
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Jiangsu Ever-tie Lighting Inc

Date: 2024/6/4

Model: ETLF2-24/DE/40/YDM/CCT/APP 830 (A3+B7)



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

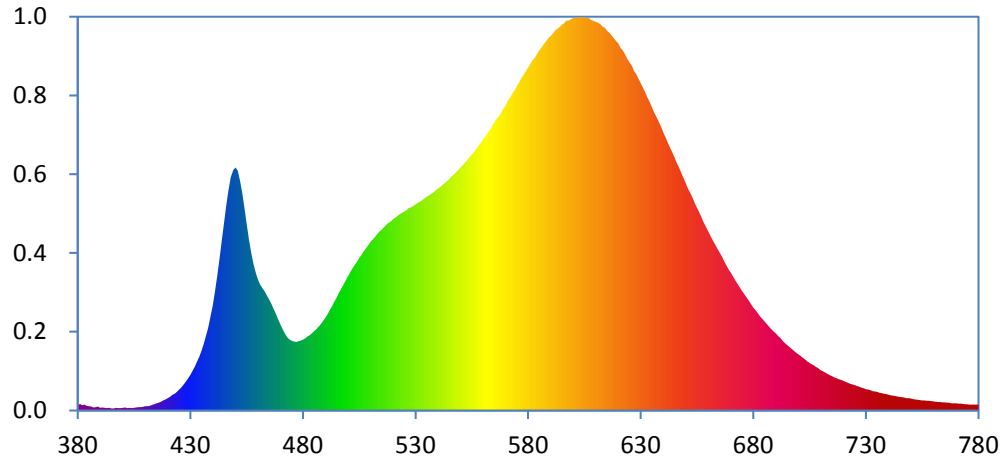
x 0.4314
 y 0.4007
 u' 0.2485
 v' 0.5192

CIE 13.3-1995
(CRI)

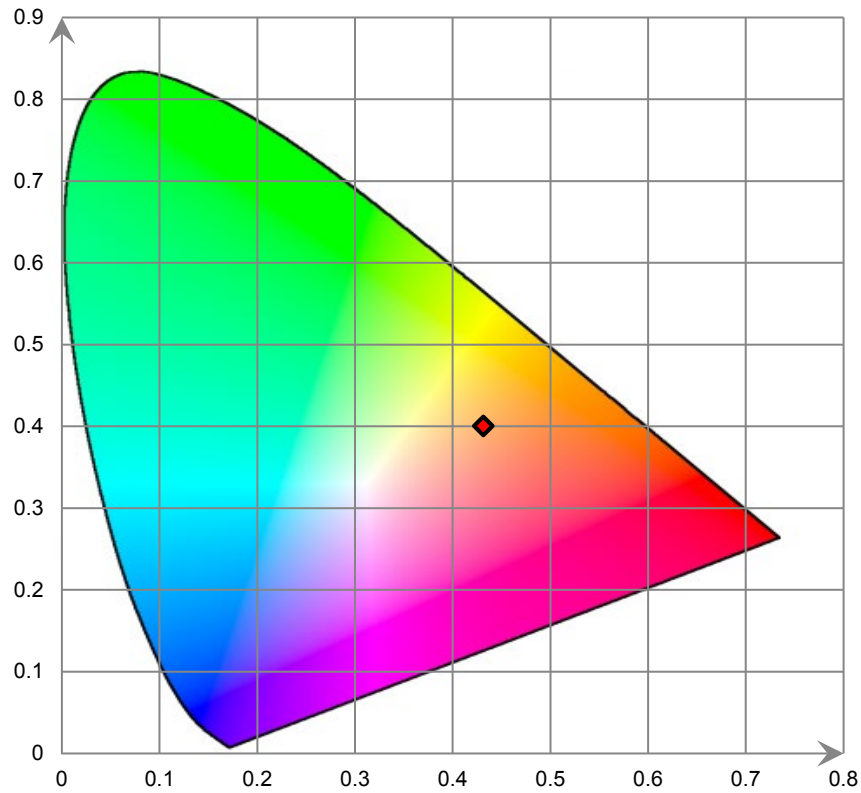
R_a 83
 R_g 9

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

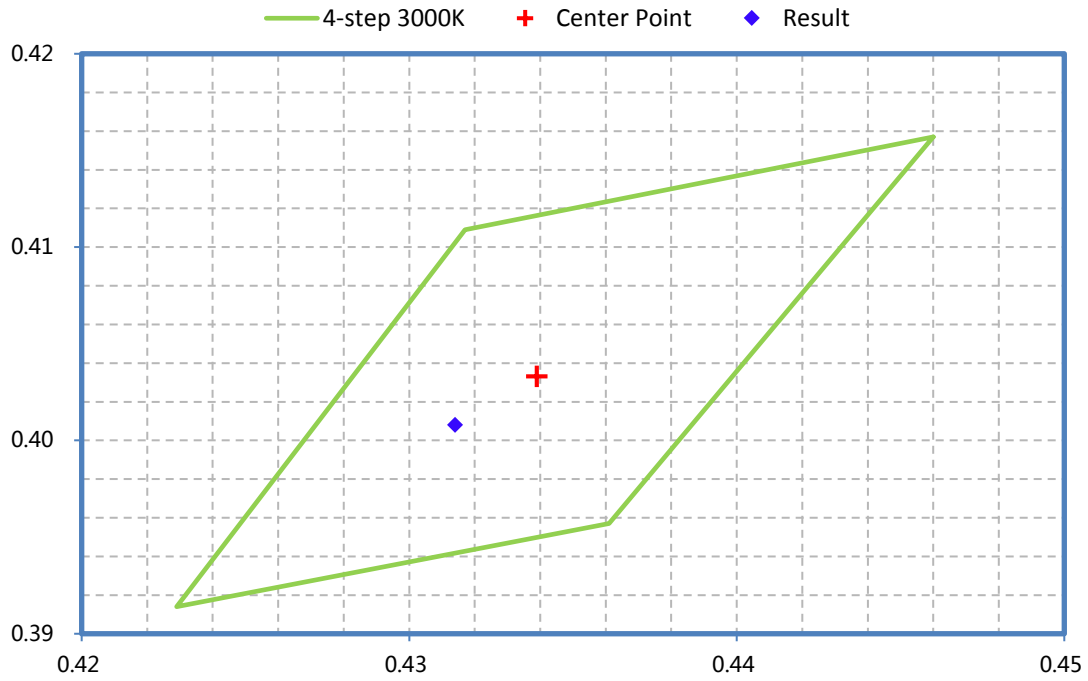
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

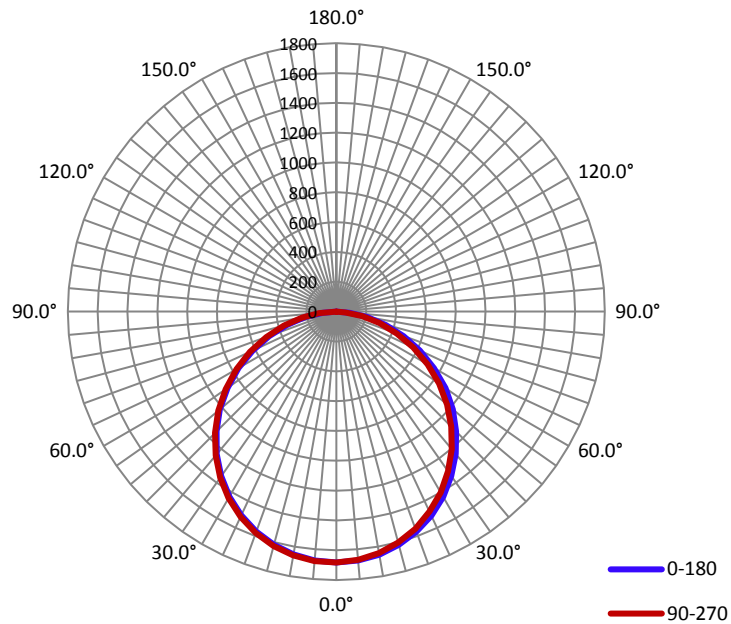
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.332	39.69	0.996

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I _{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
4862.8	122.57	1683.1	1.27	1.26

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I _{max}):	113.9	113.1	112.5	113.1	113.2
Field Angle (10% I _{max}):	163.4	163.2	162.9	163.2	163.2

Luminous Intensity (cd) Distribution Data

$\begin{matrix} C \\ \backslash \\ Y \end{matrix}$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	1682.0	1682.0	1682.0	1682.0	1682.0	1682.0	1682.0	1682.0
5.0°	1674.8	1672.7	1671.5	1670.2	1670.6	1671.8	1673.0	1675.1
10.0°	1654.0	1649.6	1646.2	1643.6	1644.2	1646.4	1650.0	1654.4
15.0°	1618.2	1611.6	1606.7	1602.7	1603.1	1606.4	1612.5	1618.4
20.0°	1570.0	1561.4	1553.7	1549.8	1550.3	1552.3	1561.5	1569.6
25.0°	1508.7	1495.8	1486.2	1480.6	1479.9	1485.2	1494.3	1505.5
30.0°	1433.6	1420.0	1407.9	1401.3	1400.7	1404.1	1417.2	1429.3
35.0°	1344.2	1328.9	1318.2	1309.5	1307.3	1312.5	1327.1	1340.4
40.0°	1245.6	1229.4	1215.4	1204.0	1204.1	1211.0	1225.1	1241.1
45.0°	1135.6	1117.6	1103.5	1091.9	1090.5	1096.9	1114.5	1131.3
50.0°	1018.6	999.0	981.1	970.6	969.8	976.2	992.4	1013.1
55.0°	892.7	870.7	854.6	843.0	841.8	849.3	863.7	886.6
60.0°	756.2	738.0	719.4	705.2	707.1	715.0	731.3	751.0
65.0°	618.4	600.5	582.2	569.2	568.6	579.7	595.0	614.4
70.0°	479.8	460.4	442.7	432.9	432.4	440.0	455.2	476.3
75.0°	342.9	324.9	309.1	297.4	299.1	306.5	320.4	337.6
80.0°	209.6	196.6	182.7	173.2	174.2	181.0	192.7	208.0
85.0°	89.1	78.6	68.1	61.7	61.0	67.6	75.7	88.6
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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.)

$\begin{matrix} C \\ \backslash \\ Y \end{matrix}$	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	1682.0	1682.0	1682.0	1682.0	1682.0	1682.0	1682.0	1682.0
5.0°	1675.3	1677.1	1678.6	1678.7	1678.5	1677.6	1676.5	1675.2
10.0°	1653.5	1658.0	1660.6	1660.1	1660.1	1658.4	1656.2	1653.8
15.0°	1618.8	1625.1	1628.4	1627.7	1626.9	1624.7	1621.2	1618.0
20.0°	1569.6	1577.9	1581.6	1580.2	1579.0	1576.4	1572.7	1568.4
25.0°	1507.5	1516.5	1520.2	1519.1	1517.8	1513.3	1510.2	1505.0
30.0°	1432.8	1442.5	1447.7	1445.0	1443.9	1439.8	1435.0	1429.3
35.0°	1345.9	1354.7	1360.0	1359.2	1357.9	1351.6	1347.8	1341.9
40.0°	1246.7	1256.8	1262.2	1261.2	1258.4	1253.1	1249.6	1242.9
45.0°	1135.2	1148.3	1153.7	1150.6	1150.1	1145.3	1139.4	1132.1
50.0°	1017.7	1030.2	1036.3	1033.2	1032.7	1027.0	1021.6	1013.3
55.0°	891.1	904.0	908.0	907.0	906.7	901.8	895.3	886.8
60.0°	758.5	768.6	776.2	775.4	772.4	768.4	763.7	754.7
65.0°	620.3	631.3	638.6	639.1	638.8	632.1	627.5	618.1
70.0°	479.2	492.5	500.3	498.9	498.7	494.9	486.6	477.0
75.0°	341.7	355.6	363.5	363.1	363.2	359.0	350.0	340.8
80.0°	211.4	221.4	230.2	233.8	233.8	227.3	220.5	210.7
85.0°	90.8	103.3	110.1	114.5	115.1	109.2	101.3	91.0
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: ETLPZ-24/DE/40/YDM/CCT/APP 835(A3+B7)

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120.0V 60Hz;				
Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	4910.3	≥3000	≥2700	Pass
Power(W)	39.38	None.	None.	N/A
Total Efficacy(lm/W)	124.69	≥125	≥121.25	Pass
CCT(K)	3588	None ⁱ	None.	N/A
Duv	-0.00226	None ⁱ	None.	N/A
IES R _f	85	70	69	Pass
IES R _g	98	89	88	
IES R _{cs,h1}	-11%	-12%~23%	-13%~24%	
R _a	84.8	≥80	≥79	
R ₉	16	≥0	≥-1	

Note:

- i. White-tunable products are not required to meet the chromaticity requirements in DLC V5.1.

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	5.33%	≤20%	≤25%	Pass
277	Power Factor	0.9293	≥0.9	≥0.87	Pass
277	THDi	12.70%	≤20%	≤25%	Pass

Note:

- The test results were measured directly from the test equipment.
- The DLC requirements were listed according to DLC Technical Requirements V5.1.
- 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]

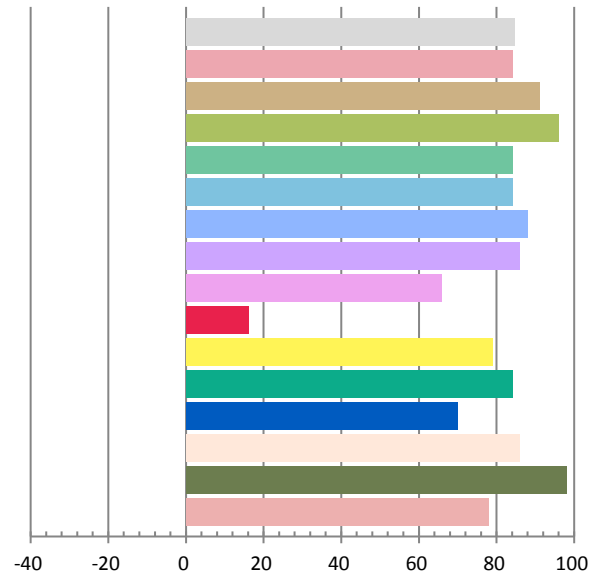
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.33	39.38	0.9946	4910.3	124.69

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
15.090	3588	-0.00226	0.3983	0.3821	0.2347	0.5066

Color Rendering Index

Ra			
84.8			
R1	R2	R3	R4
84	91	96	84
R5	R6	R7	R8
84	88	86	66
R9	R10	R11	R12
16	79	84	70
R13	R14	R15	
86	98	78	



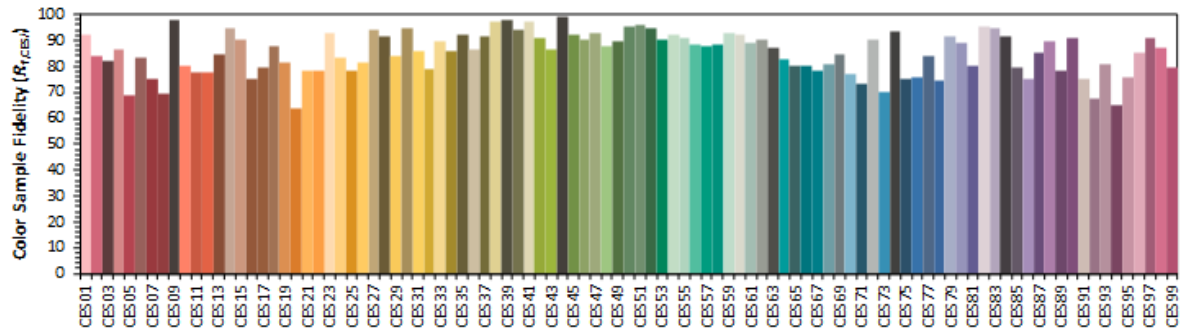
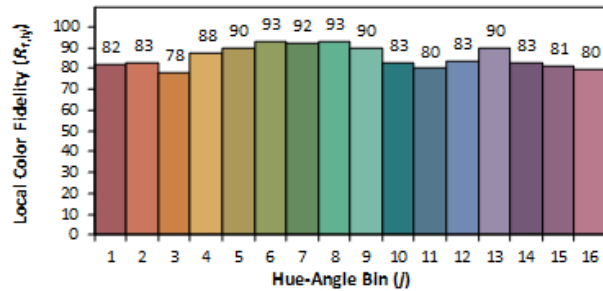
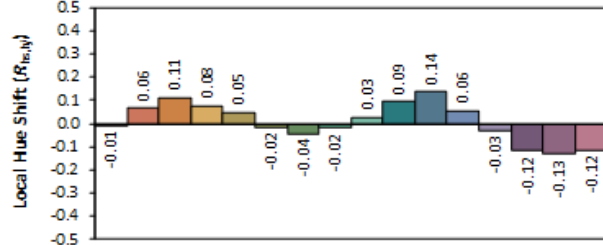
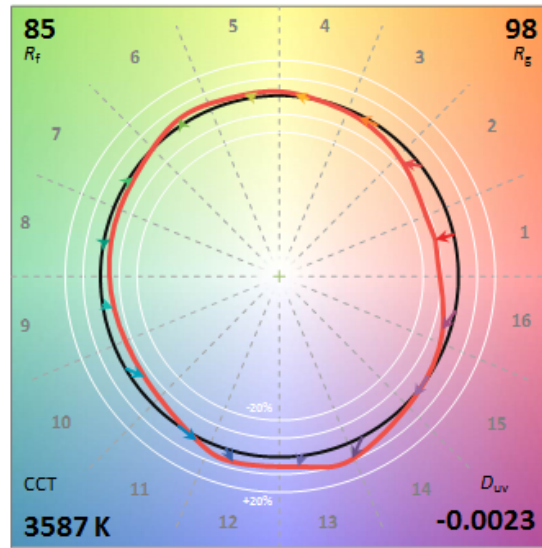
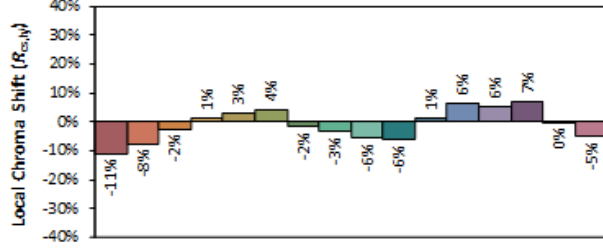
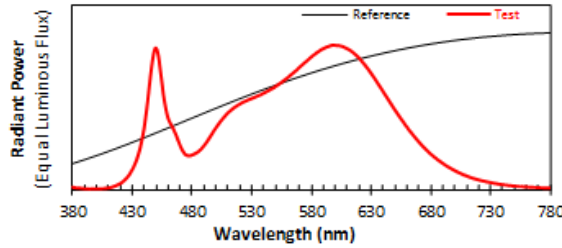
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Jiangsu Ever-tie Lighting Inc

Date: 2024/6/4

Model: ETLPZ-24/DE/40/YDM/CCT/APP 835 (A3+B7)



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

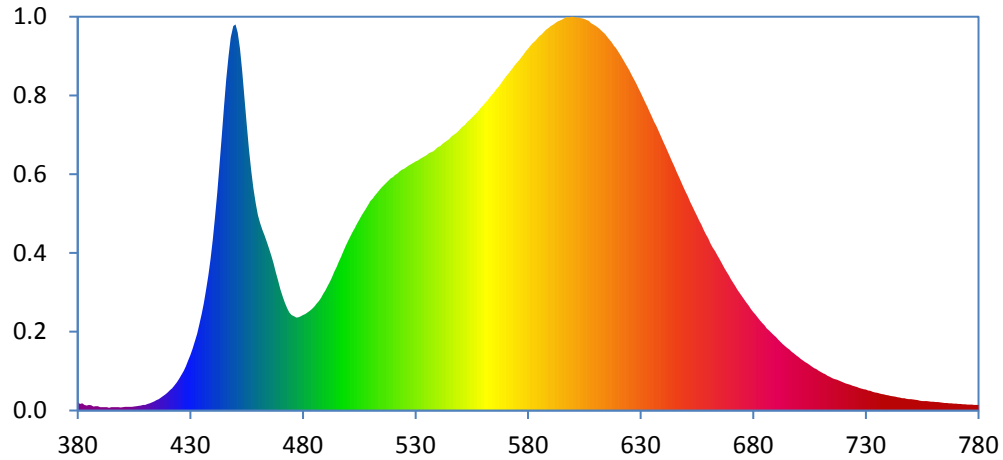
x 0.3983
 y 0.3819
 u' 0.2347
 v' 0.5065

CIE 13.3-1995
(CRI)

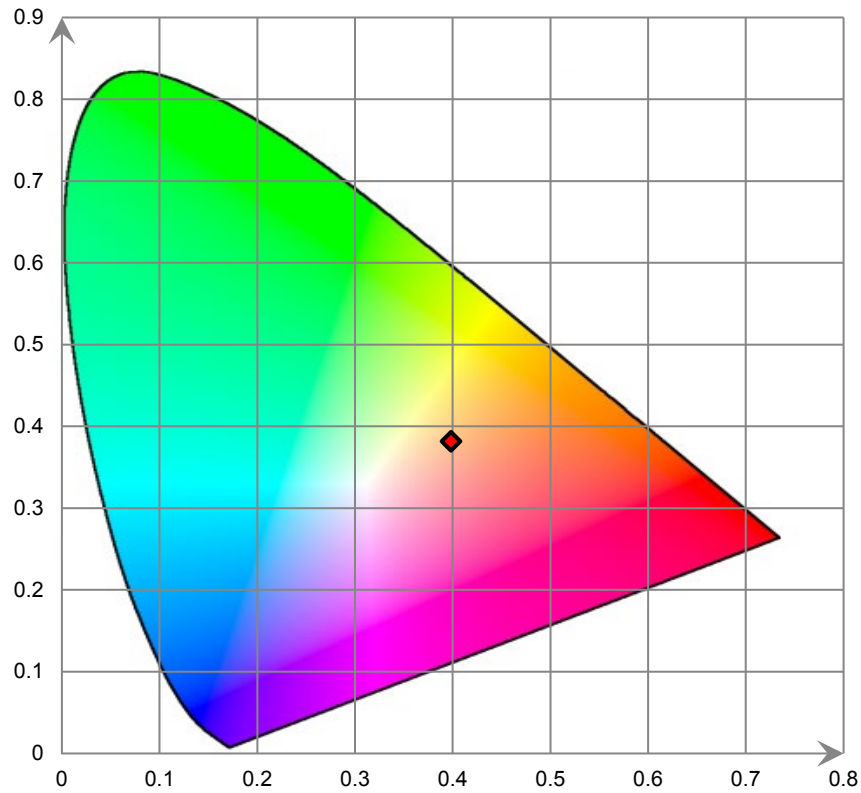
R_a 85
 R_g 16

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

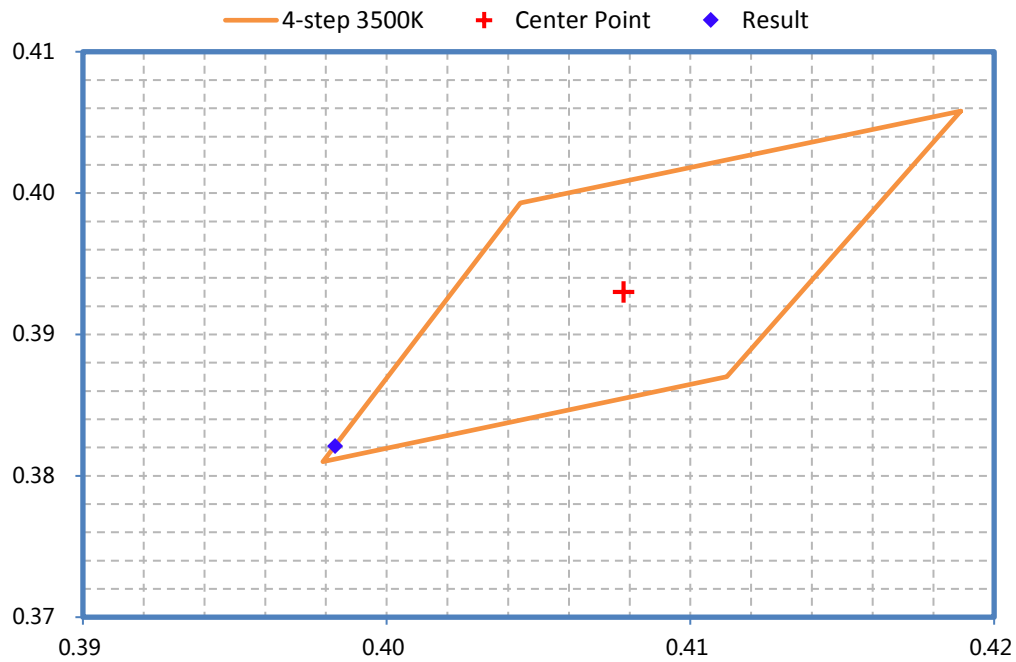
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model: ETLPZ-24/DE/40/YDM/CCT/APP 840(A3+B7)

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120.0V 60Hz;				
Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	4913.4	≥3000	≥2700	Pass
Power(W)	39.43	None.	None.	N/A
Total Efficacy(lm/W)	124.61	≥125	≥121.25	Pass
CCT(K)	3995	None ⁱ	None.	N/A
Duv	-0.00225	None ⁱ	None.	N/A
IES R _f	85	70	69	Pass
IES R _g	98	89	88	
IES R _{cs,h1}	-11%	-12%~23%	-13%~24%	
R _a	85	≥80	≥79	
R ₉	18	≥0	≥-1	

Note:

- i. White-tunable products are not required to meet the chromaticity requirements in DLC V5.1.

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	0.9946	≥0.9	≥0.87	Pass
120	THDi	5.33%	≤20%	≤25%	Pass
277	Power Factor	0.9292	≥0.9	≥0.87	Pass
277	THDi	12.83%	≤20%	≤25%	Pass

Note:

- The test results were measured directly from the test equipment.
- The DLC requirements were listed according to DLC Technical Requirements V5.1.
- 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]

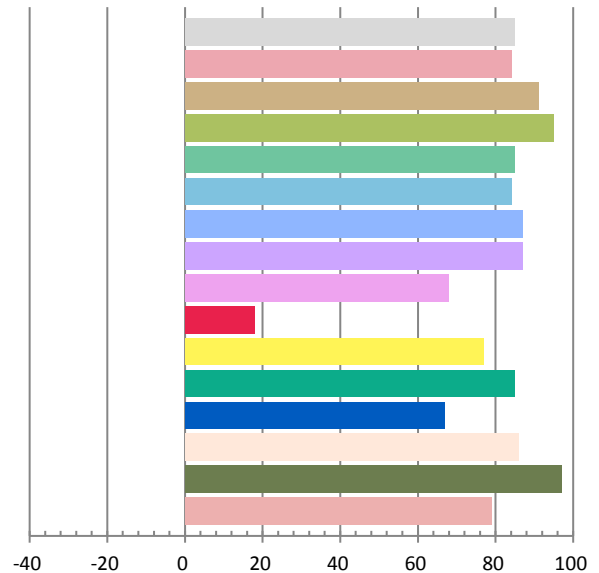
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.3304	39.43	0.9947	4913.4	124.61

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
15.212	3995	-0.00225	0.3791	0.3712	0.2265	0.4989

Color Rendering Index

Ra			
85.0			
R1	R2	R3	R4
84	91	95	85
R5	R6	R7	R8
84	87	87	68
R9	R10	R11	R12
18	77	85	67
R13	R14	R15	
86	97	79	



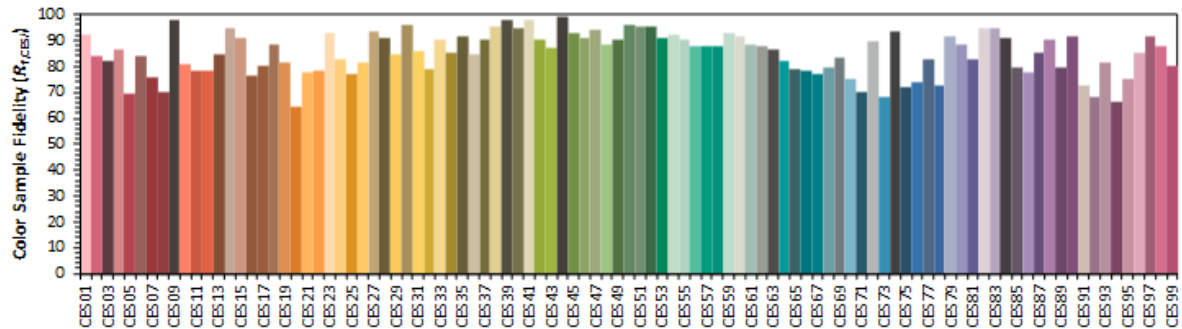
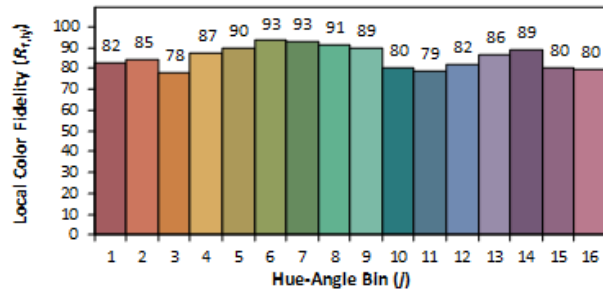
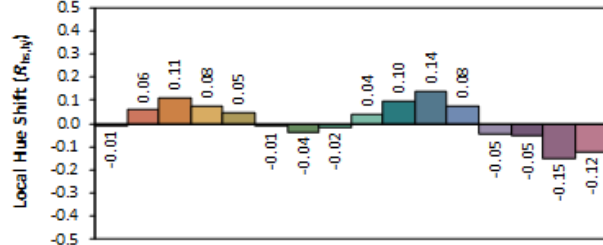
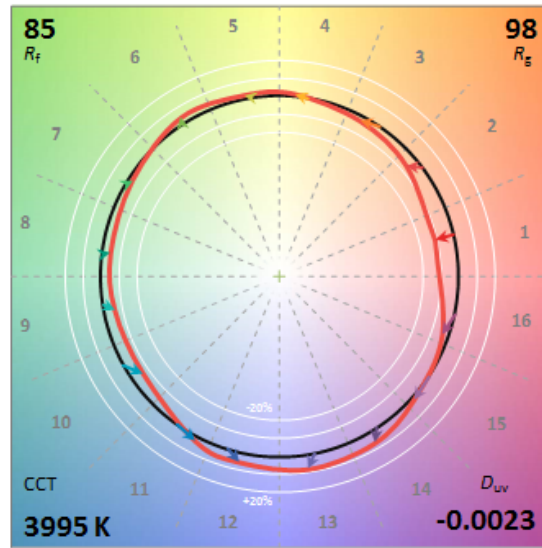
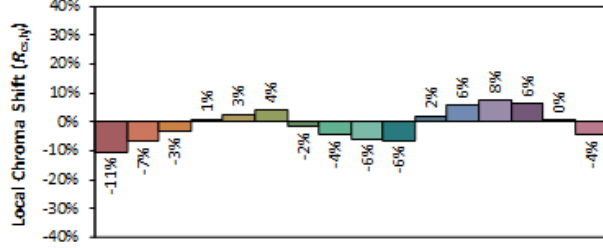
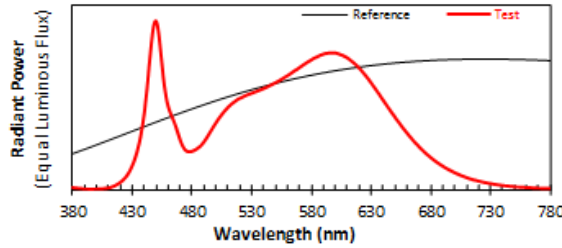
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Jiangsu Ever-tie Lighting Inc

Date: 2024/6/4

Model: ETLF2-24/DE/40/YDM/CCT/APP 840 (A3+B7)



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

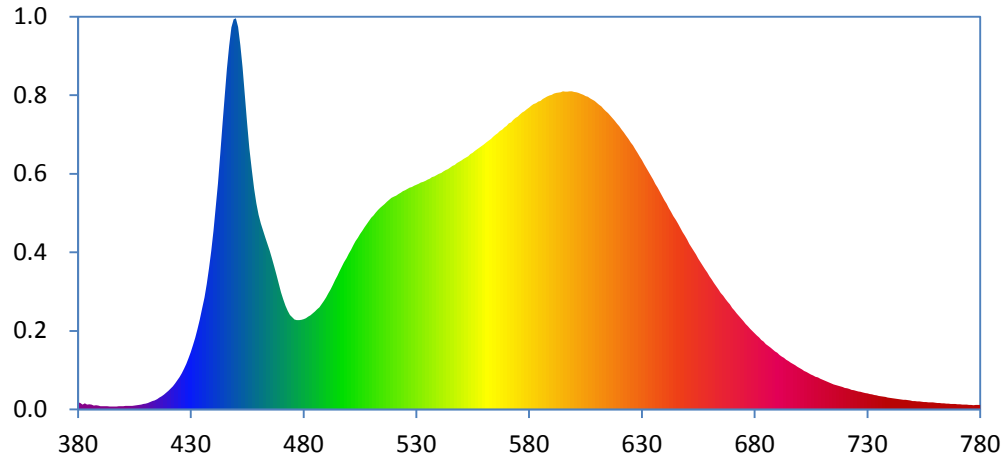
x 0.3791
 y 0.3710
 u' 0.2265
 v' 0.4988

CIE 13.3-1995
(CRI)

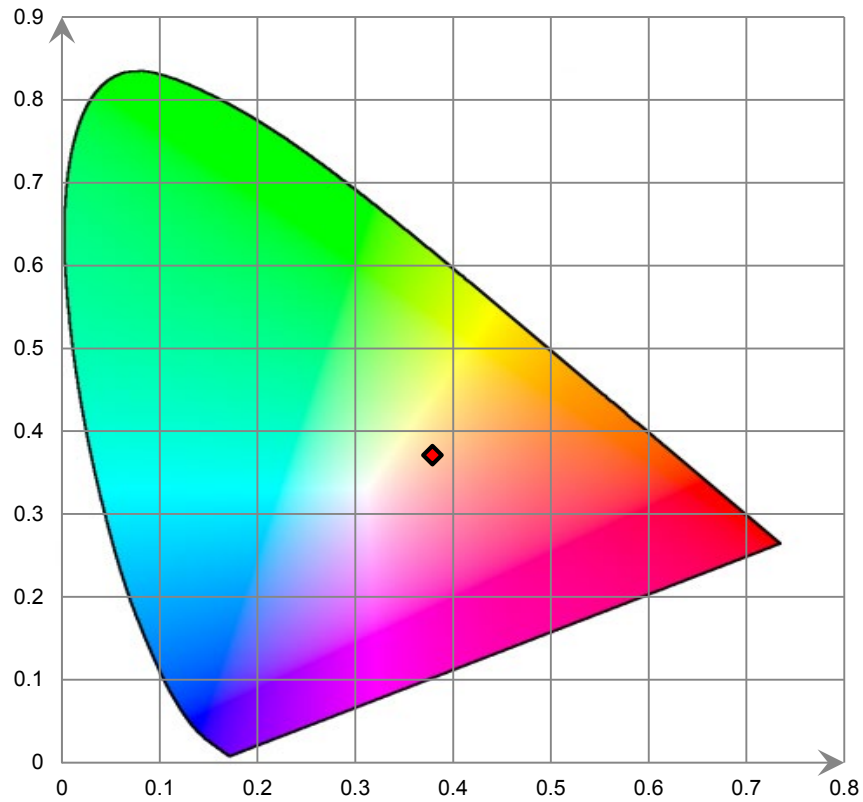
R_a 85
 R_g 18

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

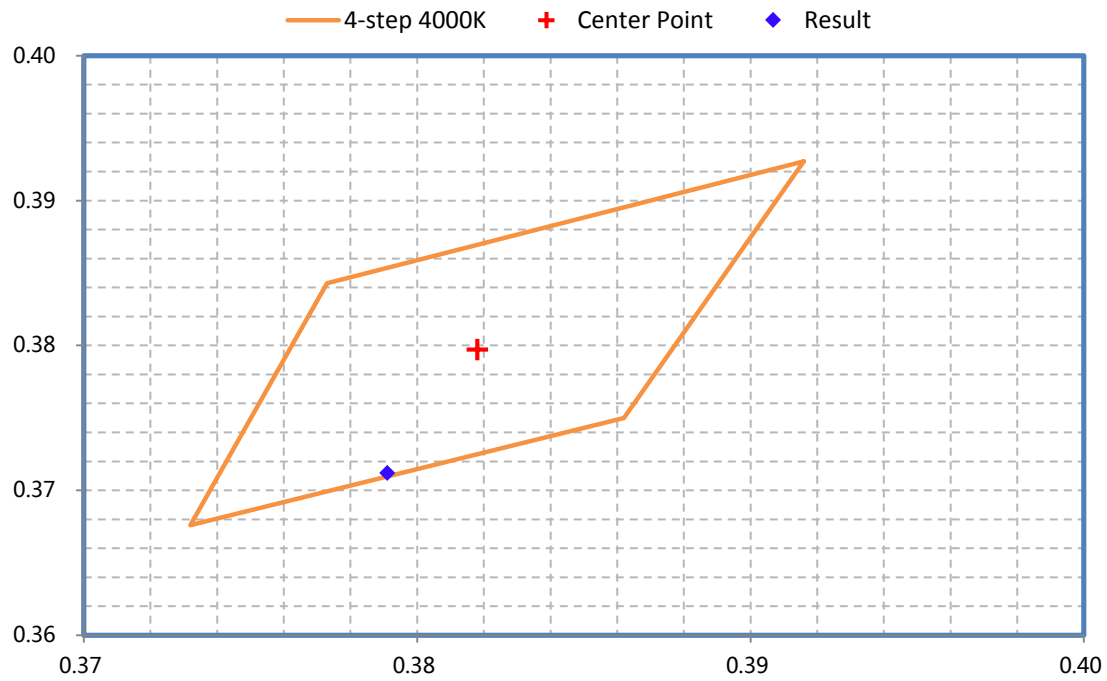
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



Test Model: ETLpz-24/DE/40/YDM/CCT/APP 850(A3+B7)

Integrating Sphere Test; Orientation: <u>Downward</u> ; Test Voltage: <u>120.0V 60Hz</u> ;				
Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	4916.8	≥3000	≥2700	Pass
Power(W)	39.95	None.	None.	N/A
Total Efficacy(lm/W)	123.08	≥125	≥121.25	Pass
CCT(K)	5033	None ⁱ	None.	N/A
Duv	0.000239	None ⁱ	None.	N/A
IES R _f	84	70	69	Pass
IES R _g	98	89	88	
IES Rcs,h1	-12%	-12%~23%	-13%~24%	
R _a	83.5	≥80	≥79	
R ₉	11	≥0	≥-1	

Note:

- i. White-tunable products are not required to meet the chromaticity requirements in DLC V5.1.

Goniophotometer Test; Orientation: <u>Downward</u> ; Test Voltage: <u>120.0V 60Hz</u> ;				
Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	4925.6	≥3000	≥2700	Pass
Power(W)	39.99	None.	None.	N/A
Total Efficacy(lm/W)	123.22	≥125	≥121.25	Pass
Zonal Lumen Distribution(0-60°)	78.21%	0-60°≥75%	0-60°≥72%	Pass
SC:0-180°	1.27	1.0≤SC≤2.0	0.9≤SC≤2.1	Pass
SC:90-270°	1.26	1.0≤SC≤2.0	0.9≤SC≤2.1	Pass
UGR crosswise view	19.7	<22	No tolerances	Pass
UGR endwise view	19	<22	No tolerances	Pass

Integrating Sphere THDi 、PF Test; Orientation: <u>Downward</u> ;					
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	5.27%	≤20%	≤25%	Pass
277	Power Factor	0.9303	≥0.9	≥0.87	Pass
277	THDi	12.37%	≤20%	≤25%	Pass

Note:

- The test results were measured directly from the test equipment.
- The DLC requirements were listed according to DLC Technical Requirements V5.1.
- 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]

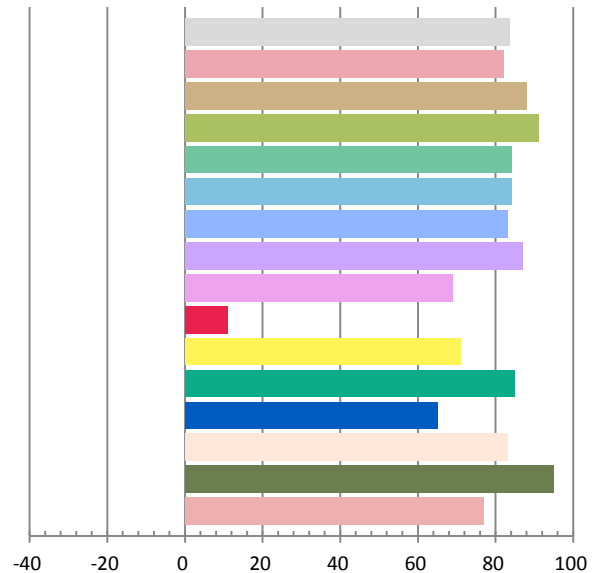
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.3347	39.95	0.9947	4916.8	123.08

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
15.437	5033	0.000239	0.3442	0.3514	0.2109	0.4844

Color Rendering Index

Ra			
83.5			
R1	R2	R3	R4
82	88	91	84
R5	R6	R7	R8
84	83	87	69
R9	R10	R11	R12
11	71	85	65
R13	R14	R15	
83	95	77	



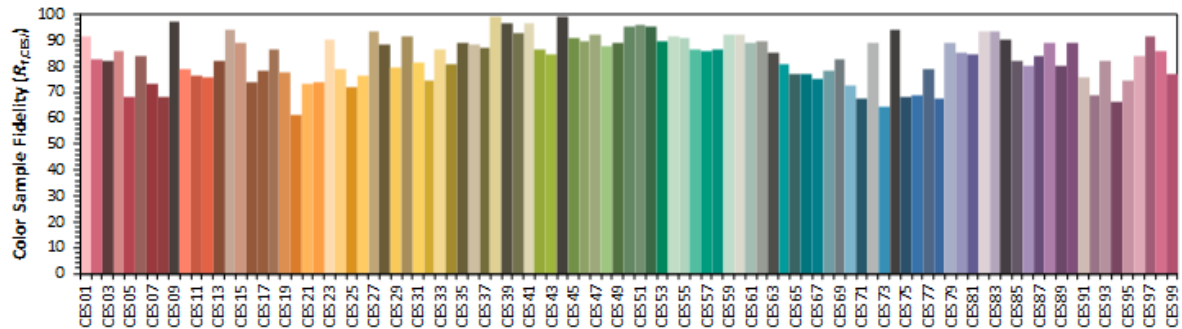
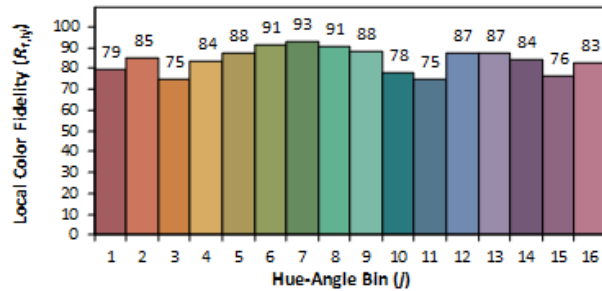
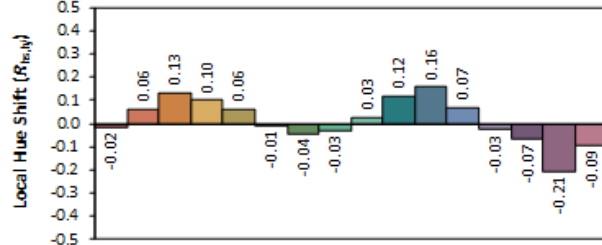
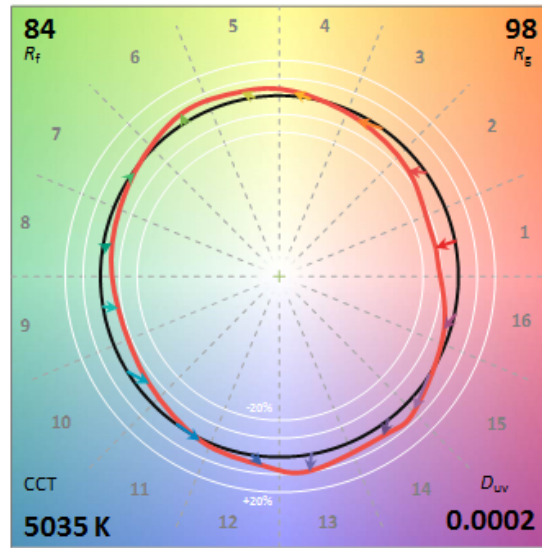
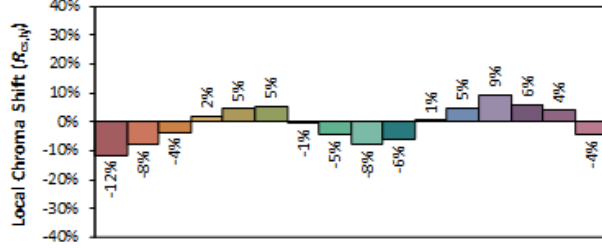
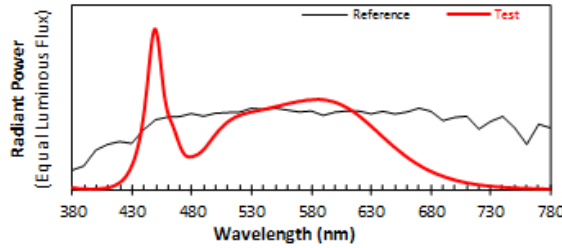
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Jiangsu Ever-tie Lighting Inc

Date: 2024/6/11

Model: ETLFZ-24/DE/40/YDM/CCT/APP 850 (A3+B7)



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

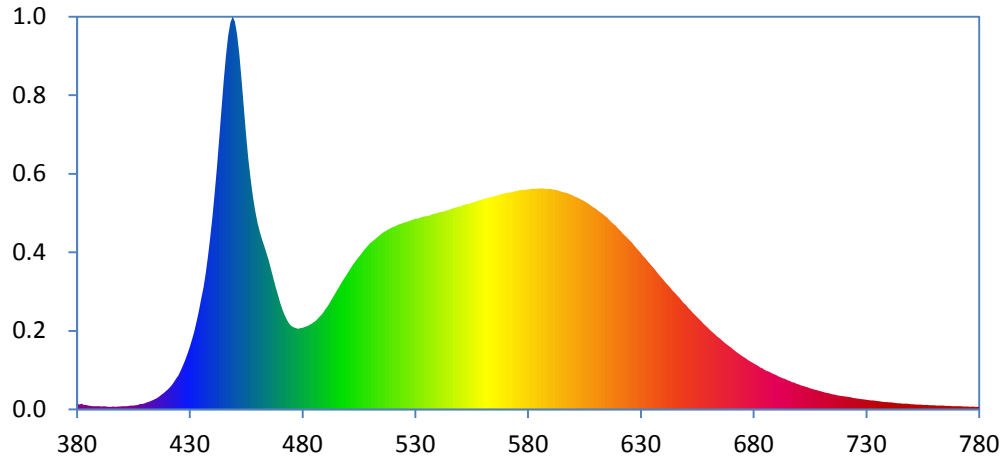
x 0.3442
 y 0.3512
 u' 0.2109
 v' 0.4843

CIE 13.3-1995
(CRI)

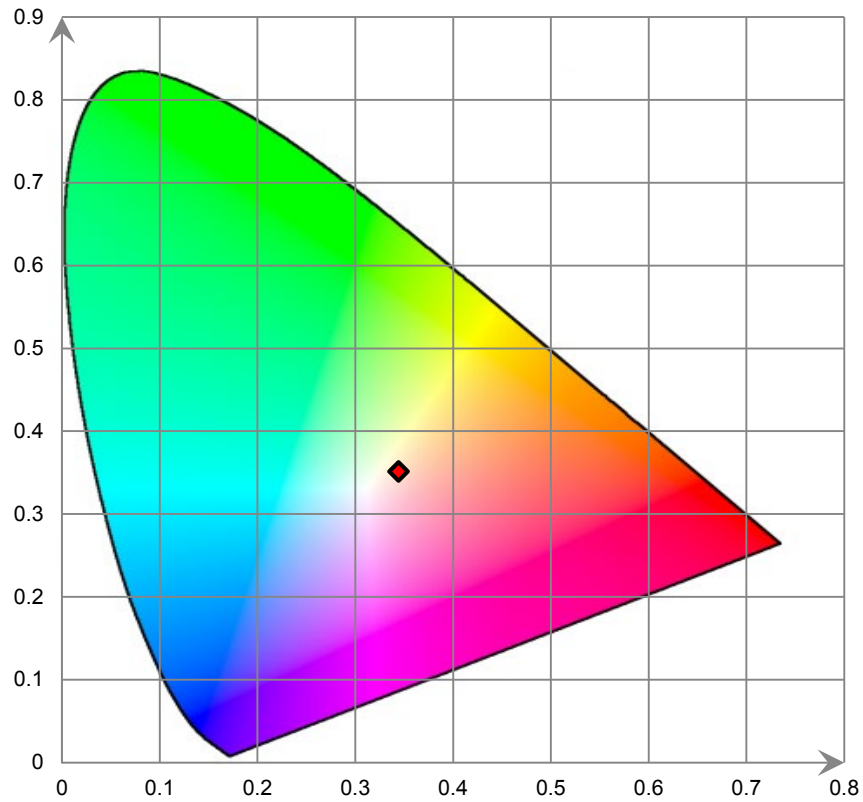
R_a 83
 R_g 11

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

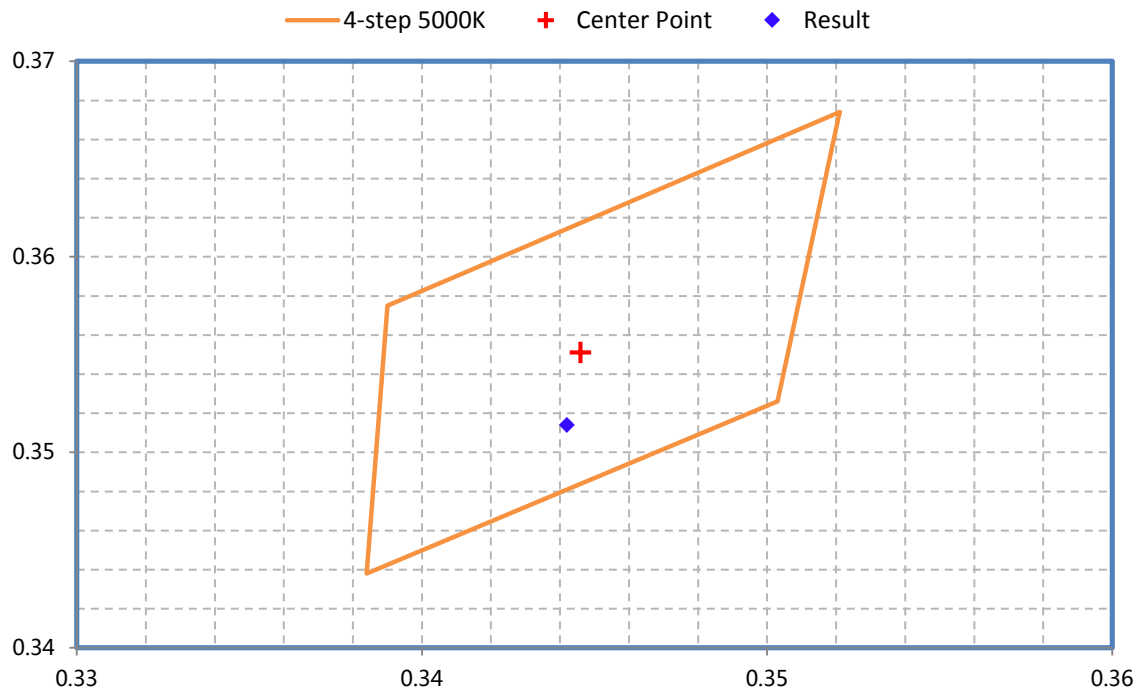
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



[Goniophotometer System]

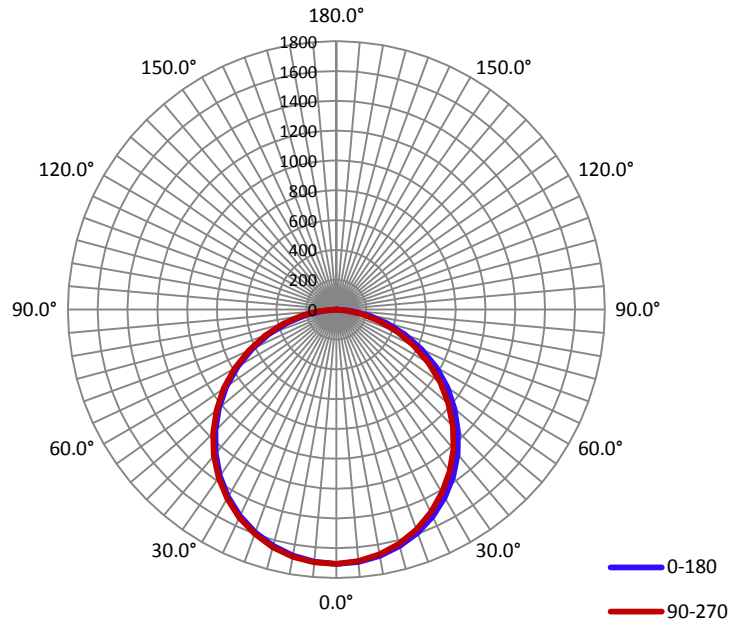
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.0	60	0.334	39.99	0.996

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I _{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
4925.6	123.22	1705.0	1.27	1.26

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I _{max}):	113.8	113.1	112.5	113.1	113.1
Field Angle (10% I _{max}):	163.3	163.1	162.8	163.1	163.1

Luminous Intensity (cd) Distribution Data

$\begin{matrix} C \\ \backslash \\ Y \end{matrix}$	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	1704.4	1704.4	1704.4	1704.4	1704.4	1704.4	1704.4	1704.4
5.0°	1698.0	1695.3	1693.2	1692.8	1692.4	1693.3	1695.0	1697.0
10.0°	1676.7	1671.9	1668.2	1666.5	1665.7	1667.4	1671.3	1675.2
15.0°	1641.2	1634.8	1628.9	1624.7	1624.3	1626.9	1632.5	1638.8
20.0°	1592.8	1584.1	1575.3	1569.5	1569.5	1571.7	1580.3	1588.7
25.0°	1530.4	1517.2	1507.8	1501.1	1499.0	1503.1	1513.3	1524.4
30.0°	1453.7	1440.3	1427.7	1419.9	1417.4	1422.4	1432.7	1446.9
35.0°	1365.3	1350.3	1335.2	1325.3	1324.9	1327.6	1340.5	1356.5
40.0°	1264.3	1248.7	1231.7	1220.8	1220.9	1224.3	1238.3	1253.1
45.0°	1153.9	1137.8	1119.6	1106.6	1103.4	1110.1	1125.4	1141.8
50.0°	1034.9	1014.9	995.5	983.3	980.5	985.2	1001.5	1022.4
55.0°	908.1	884.8	867.2	853.9	850.8	856.4	874.3	893.1
60.0°	772.4	750.7	730.0	714.6	714.2	720.4	736.5	755.5
65.0°	630.2	611.9	591.7	576.1	573.2	582.3	598.3	616.5
70.0°	489.8	469.0	450.0	438.4	435.4	441.0	456.2	477.3
75.0°	350.9	331.9	314.5	301.2	300.1	305.8	319.9	339.4
80.0°	217.9	201.6	185.8	175.1	173.7	178.9	190.5	205.6
85.0°	94.7	81.5	69.8	62.1	59.4	64.6	72.4	84.9
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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.)

$\begin{matrix} C \\ \backslash \\ Y \end{matrix}$	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	1704.4	1704.4	1704.4	1704.4	1704.4	1704.4	1704.4	1704.4
5.0°	1697.1	1699.2	1700.6	1701.1	1700.7	1700.1	1699.4	1697.4
10.0°	1675.2	1679.6	1682.1	1682.9	1682.5	1680.9	1678.6	1676.5
15.0°	1639.5	1645.7	1648.4	1649.3	1648.6	1646.5	1644.3	1640.6
20.0°	1589.4	1597.8	1600.9	1601.7	1600.8	1597.9	1595.4	1591.1
25.0°	1526.0	1534.2	1539.4	1540.0	1539.3	1534.8	1532.6	1527.3
30.0°	1450.1	1459.9	1464.4	1465.0	1464.4	1459.5	1456.9	1450.9
35.0°	1361.7	1371.1	1377.4	1377.6	1375.2	1372.0	1369.1	1362.6
40.0°	1259.0	1271.6	1277.5	1278.6	1276.8	1272.3	1269.5	1263.2
45.0°	1147.4	1161.5	1165.5	1166.5	1166.9	1160.5	1158.2	1150.3
50.0°	1027.7	1041.6	1046.2	1047.4	1048.0	1041.4	1038.9	1031.0
55.0°	899.5	910.6	918.3	919.3	920.4	914.1	911.2	903.1
60.0°	762.0	775.8	784.5	786.4	784.4	781.8	778.2	769.7
65.0°	621.6	636.2	645.5	647.8	646.8	644.0	640.0	631.2
70.0°	481.2	495.4	505.0	505.6	507.0	502.1	497.4	488.5
75.0°	341.3	356.0	363.5	368.0	369.5	364.4	359.0	350.1
80.0°	208.9	221.1	231.3	236.9	235.7	233.3	227.7	218.2
85.0°	87.1	98.6	109.2	115.8	117.8	113.0	106.4	96.0
90.0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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

6. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
2.0m integrating sphere	EVERFINE	R98	G121960CS1361154D	2024-04-24	2025-04-23
spectroradiometer	EVERFINE	HAAS-2000	M12048CS1361148	2024-04-24	2025-04-23
Digital CC&CV DC Power Supply	EVERFINE	WY305	G115986CN1361134	2024-04-23	2025-04-22
Thermal Meter	ANYMETRE	TH-20E	N/A	2024-04-20	2025-04-19
Standard Light Source	EVERFINE	D215S	G119786CS1361115	2023-08-10	2025-08-09
Digital Power Meter	YOKOGAWA	WT210	91KB35700	2024-04-23	2025-04-22
Intelligence ac power supply	EVERFINE	DPS1005	G119890CS1361121	2024-04-23	2025-04-22
AC Power Supply	INVENTFINE	CHP-5KVA	900511765	2024-04-24	2025-04-23
DC Power Supply	INVENTFINE	WL3010	JWDMP030001	2024-04-24	2025-04-23
Power Meter	INVENTFINE	WT500	GSDSQ200007	2024-04-24	2025-04-23
Goniophotometer	INVENTFINE	GPM-1900	YWGCF120001	2023-11-09	2024-11-08
Wireless Weather Station	ZHONGXING	KG218	N/A	2024-04-20	2025-04-19
Standard Light Source	INVENTFINE	N/A	JWBYR040008	2023-11-18	2025-11-17
Digital Multimeter	FLUKE	115C	37840512WS	2024-04-24	2025-04-23
Hybrid Recorder	YOKOGAWA	DR230	47JH0903	2024-04-24	2025-04-23
Power Supply	SC	SC/BP-11003	1608110030553	2024-04-23	2025-04-22

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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ 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*****