



**BESTWAY COMPLIANCE CO., LTD.**

Unit 301, Building 3, No. 178, Fenggang Section, Dongshen Road, Fenggang Town,  
Dongguan, Guangdong, People's Republic of China  
Tel: (+86)0769-82699983

## **LM-79-19 Test Report**

For

**RAB Lighting INC.**

**(Brand Name: RAB)**

408 W 14th St, New York, NY 10014, USA

**Model name(s):  
ALR-SB**

**Report Type:** Testing and Report According to IES LM-79-2019  
**Type of Luminaire:** LED luminaire  
**Report Date:** 2024-08-27

Test & Report By:

Review By:

*Ferrum Li*

*Garman Mo*

Engineer: Ferrum Li

Manager: Garman Mo

Note: 1. The results contained in this report pertain only to the tested samples.  
2. This report does not imply product certification, approval, or endorsement by A2LA or any agency of the Federal Government.



<b>1.1 Product Information:</b>		
Model Number	ALR-SB	
Remark	N/A	
Representative (Tested) Model	ALR-SB(mode:2700K) ALR-SB(mode:3000K) ALR-SB(mode:3500K) ALR-SB(mode:4000K) ALR-SB(mode:5000K)	
Model Difference	N/A	
SKU (if available)	--	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED luminaire	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-xx90RC35xxxxx	
Integral Controls Availability	Yes	
Dimming	Continuous	
Sample Number	STD240728NB-C1	
Date of Receipt	2024-08-14	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaire Width	--	mm
Number of Units (modular products)	N/A	s

<b>1.2 Rated Values:</b>	
Rated Voltage / Frequency	120Vac, 60Hz
Nominal Power	16W
Rated Initial Lamp Lumen	--
Declared CCT	2700K,3000K,3500K,4000K,5000K (Color Tunable)

### 1.3 Test Specifications:

Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2019 Optical and Electrical Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
Reference Work Instruction	QD25

### 1.4 Test Methods

#### 1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ , measured at a point not more than 1.5 m from the sample and at the same height as the sample. The humidity should be maintained between 10% and 65%. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

#### 2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ . The humidity should be maintained between 10% and 65%. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

#### 3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at  $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ . The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.



**2.2 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2024-08-16	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ALR-SB(mode:2700K)	<b>Total Operating Time (min)</b>	75

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD240728 NB-C1	120.0	60	0.1442	15.87	0.9173	42.32

**Photometric Measurement – Goniophotometer Method (Test Distance: 26.000m):**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1015.7
Luminous Efficacy (lm/W)	64.02
Beam Angle (°)	166.2
Center Beam Candle Power (cd)	199

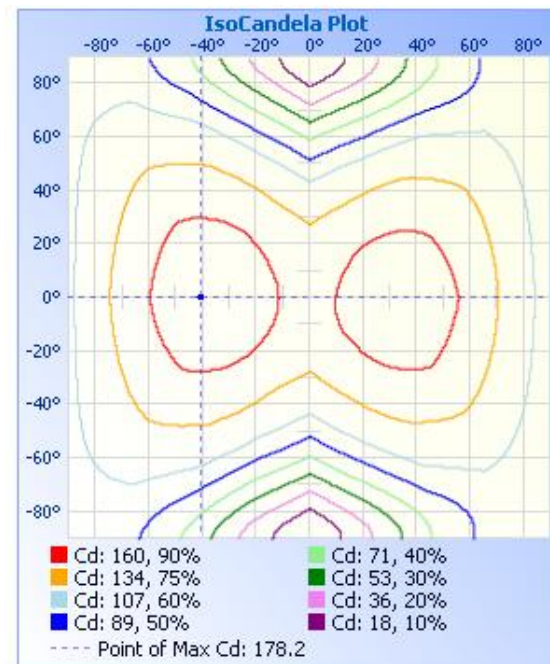
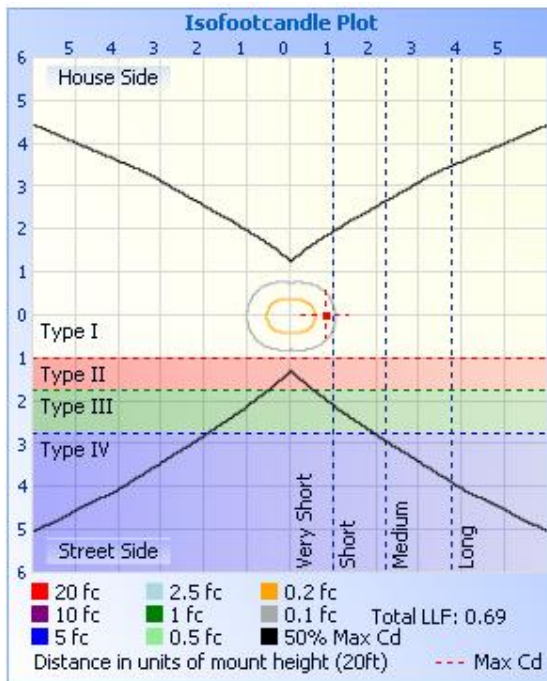
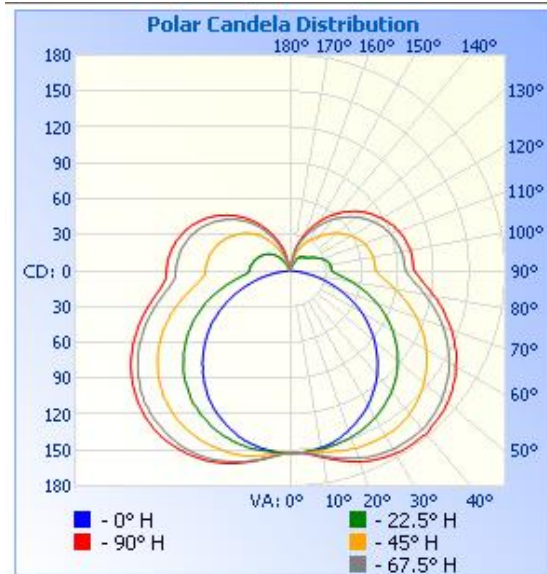


**Zonal Lumen Tabulation**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	132.0	13%
0-40	228.3	22.5%
0-60	456.4	44.9%
60-90	277.6	27.3%
70-100	234.4	23.1%
90-120	181.5	17.9%
0-90	734.0	72.3%
90-180	281.4	27.7%
0-180	1,015.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	14.7	1.4%	90-100	66.8	6.6%
10-20	44.5	4.4%	100-110	61.8	6.1%
20-30	72.8	7.2%	110-120	52.9	5.2%
30-40	96.3	9.5%	120-130	41.5	4.1%
40-50	111.6	11.0%	130-140	29.6	2.9%
50-60	116.5	11.5%	140-150	18.3	1.8%
60-70	110.1	10.8%	150-160	8.5	0.8%
70-80	93.5	9.2%	160-170	2.0	0.2%
80-90	74.0	7.3%	170-180	0.0	0%

**Photometric Data**





Certificate #4703.03

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Table--1

UNIT: cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152			
5	156	155	154	152	152	152	152	153	153	153	153	152	152	152	154	156			
10	161	159	156	152	150	151	154	157	158	158	155	151	150	152	157	161			
15	166	164	158	152	147	150	156	162	164	162	157	149	147	151	160	165			
20	171	167	159	150	142	148	158	166	170	167	158	147	142	149	160	169			
25	174	170	160	146	137	146	159	170	174	170	158	144	136	147	160	172			
30	176	170	159	142	130	142	159	172	176	171	158	140	130	143	159	172			
35	176	170	156	136	122	138	159	173	178	172	156	135	122	138	157	171			
40	175	168	153	131	114	132	156	173	178	170	153	128	113	132	154	170			
45	172	164	147	123	103	126	152	170	175	167	149	122	103	125	150	166			
50	167	159	140	114	92.6	118	146	166	172	164	142	113	92.5	116	143	161			
55	161	153	133	104	80.9	109	140	161	166	158	135	104	81.2	107	135	155			
60	154	145	124	93.7	68.8	98.8	132	154	160	151	127	93.6	68.7	96.1	127	147			
65	145	136	114	82.2	55.5	87.9	123	146	153	143	118	82.5	55.0	84.6	117	138			
70	135	126	103	69.6	41.9	76.3	112	136	144	133	107	70.2	41.4	73.2	106	128			
75	124	115	91.0	57.0	28.7	64.1	101	126	134	123	95.9	58.1	27.8	60.3	94.2	117			
80	114	104	80.1	44.7	15.2	51.9	89.6	115	122	111	84.6	45.8	14.4	48.0	82.9	106			
85	106	95.6	70.8	34.7	4.32	41.1	79.0	104	112	101	73.9	34.6	3.42	37.9	73.9	97.9			
90	104	93.5	68.2	31.0	0.00	35.1	72.3	96.9	104	93.3	67.0	28.6	0.00	34.4	70.9	95.9			
95	102	92.4	67.2	30.2	0.00	34.6	71.1	95.6	103	92.0	65.7	28.0	0.00	33.1	70.0	94.5			
100	101	90.7	66.0	28.4	0.00	33.7	70.4	94.5	102	90.9	65.3	28.0	0.00	32.4	68.9	93.1			
105	98.0	88.4	63.6	25.8	0.00	31.7	68.5	92.4	99.8	89.0	63.5	27.2	0.00	31.2	66.6	90.5			
110	94.6	85.0	60.7	22.3	0.00	28.8	66.1	89.7	96.8	86.3	61.3	26.5	0.00	29.6	64.2	87.2			
115	90.2	81.2	57.1	18.2	0.00	25.4	62.8	86.1	92.7	82.5	58.9	25.4	0.00	28.1	60.9	83.0			
120	84.7	76.2	52.5	13.8	0.00	22.1	58.5	81.3	88.2	78.6	56.1	24.2	0.00	26.2	57.2	78.2			
125	78.7	70.5	47.4	11.3	0.00	19.0	53.8	75.9	82.9	74.2	52.7	22.4	0.00	24.0	53.1	72.5			
130	72.1	64.2	42.2	11.1	0.00	16.9	48.6	69.8	76.7	68.9	48.9	20.5	0.00	21.6	48.7	66.8			
135	65.1	57.3	36.6	11.1	0.00	16.0	42.9	63.1	70.0	63.0	44.5	18.6	0.00	18.6	43.7	60.0			
140	57.2	50.1	31.7	10.6	0.00	15.0	37.3	55.9	62.9	56.5	40.4	17.0	0.00	15.3	37.9	52.8			
145	48.9	42.4	27.0	9.20	0.00	13.5	32.0	48.3	54.7	50.2	36.1	15.7	0.00	11.0	31.1	44.6			
150	40.4	34.8	22.6	2.67	0.00	10.7	27.4	40.4	46.3	43.1	32.0	13.8	0.10	2.80	23.4	35.8			
155	32.1	27.7	17.8	0.00	0.00	1.06	22.6	33.3	37.6	35.9	27.9	9.69	0.00	0.00	15.0	26.8			
160	23.5	20.5	12.3	0.00	0.00	0.00	17.4	25.8	29.1	28.6	22.8	2.49	0.00	0.00	3.63	16.6			
165	15.1	11.7	0.00	0.00	0.00	0.00	1.48	17.8	20.3	20.3	13.3	0.00	0.00	0.00	0.00	5.86			
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

**2.3 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2024-08-16	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ALR-SB(mode:2700K)	<b>Total Operating Time (min)</b>	61

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD240728 NB-C1	120.0	60	0.1452	15.96	0.9157	42.28

**Chromaticity Measurement - Sphere-Spectroradiometer**

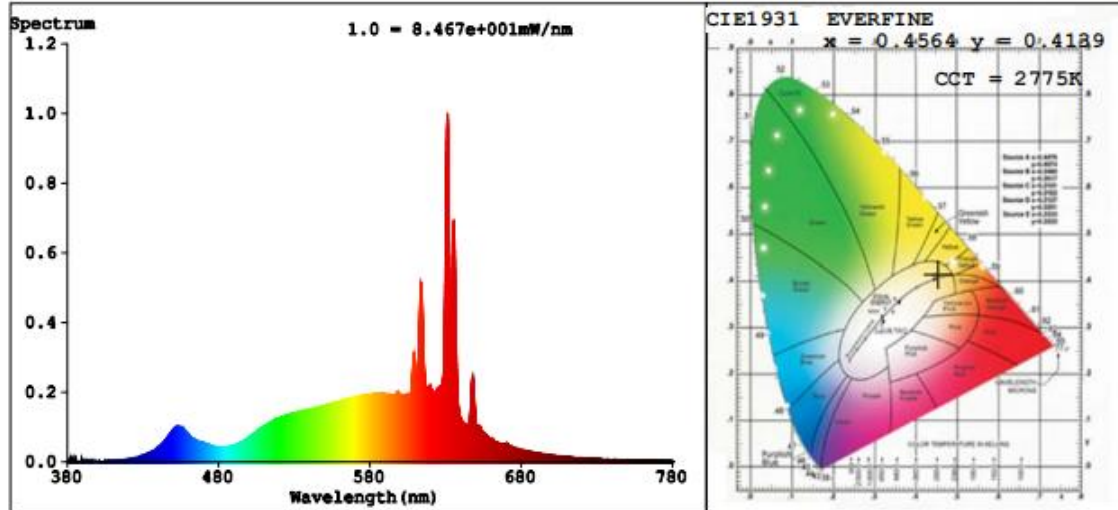
**Method(Self-absorption:1.1331) (4π geometry):**

Parameter	Result	Parameter	Result
Test Voltage (V)	120	Color Rendering Index (CRI)	93.8
Frequency (Hz)	60	R9	67
CCT (K)	2775	Rg	101
Duv	0.0015	Rf	91
Chromaticity (x, y)	x=0.4564 y=0.4139	Rcs,h1(%)	-5
Chromaticity (u', v')	u'=0.2588 v'=0.5281		

**Photometric Measurement –Sphere-Spectroradiometer Method:**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1025
Luminous Efficacy (lm/W)	64.22

**Spectral Power Distribution & Chromaticity Diagram**



**Special Color Rendering Indices**

R1 =96	R2 =95	R3 =92	R4 =96	R5 =94	R6 =95	R7 =95	
R8 =87	R9 =67	R10=85	R11=96	R12=78	R13=95	R14=94	R15=92

**TM30**

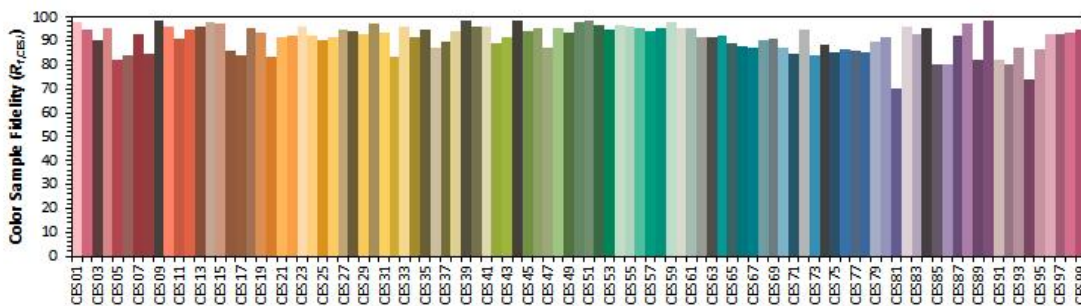
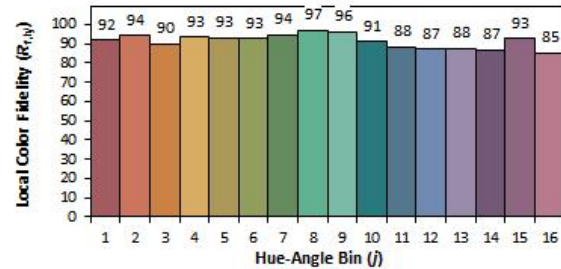
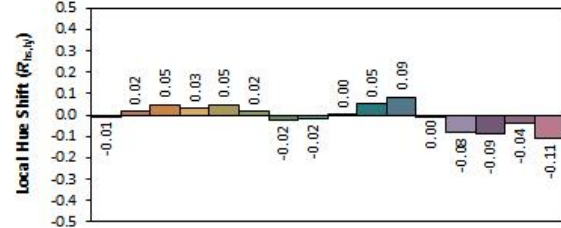
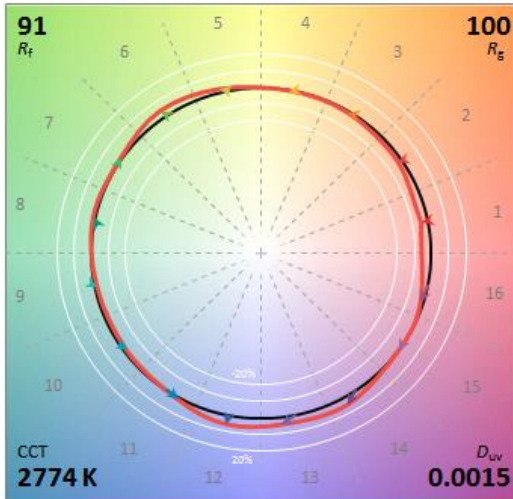
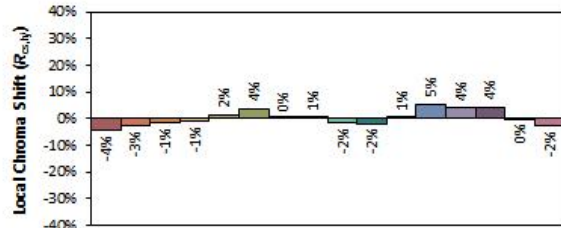
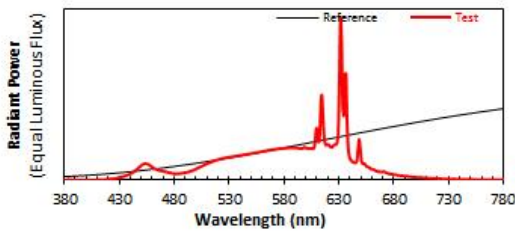
**ANSI/IES TM-30-18 Color Rendition Report**

Source: L128-xx90RC35xxxxx

Manufacturer: RAB Lighting INC.

Date: 2024-08-16

Model: ALR-SB (mode:2700K)



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

$x$  0.4564  
 $y$  0.4138  
 $u'$  0.2588  
 $v'$  0.5281

CIE 13.3-1995  
(CRI)  
 $R_a$  94  
 $R_g$  68

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

**2.3 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2024-08-16	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ALR-SB(mode:3000K)	<b>Total Operating Time (min)</b>	61

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD240728 NB-C1	120.0	60	0.1439	15.86	0.9183	42.29

**Chromaticity Measurement - Sphere-Spectroradiometer**

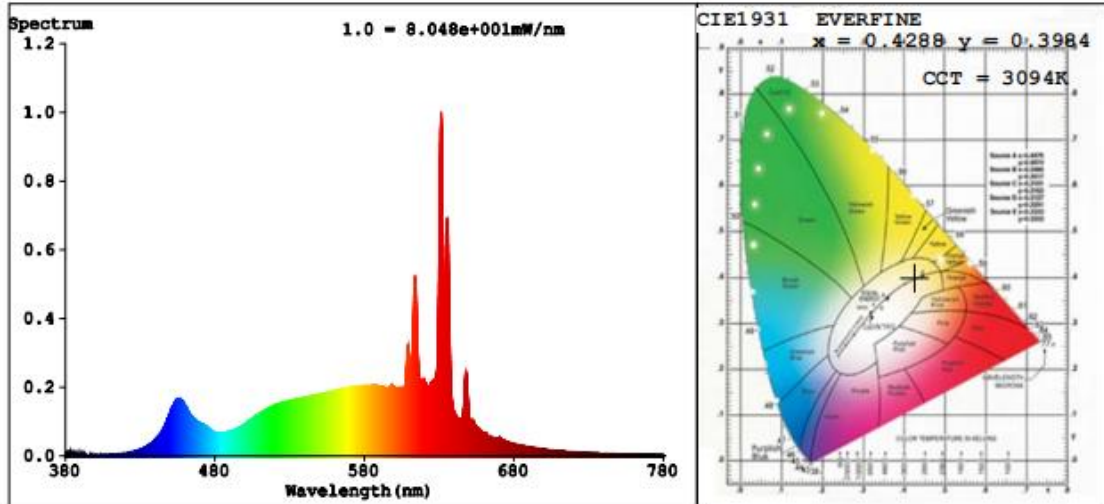
**Method(Self-absorption:1.1330) (4π geometry):**

Parameter	Result	Parameter	Result
Test Voltage (V)	120	Color Rendering Index (CRI)	96.4
Frequency (Hz)	60	R9	79
CCT (K)	3094	Rg	101
Duv	-0.0011	Rf	92
Chromaticity (x, y)	x=0.4288 y=0.3984	Rcs,h1(%)	-4
Chromaticity (u', v')	u'=0.2478 v'=0.5179		

**Photometric Measurement –Sphere-Spectroradiometer Method:**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1059
Luminous Efficacy (lm/W)	66.79

**Spectral Power Distribution & Chromaticity Diagram**



**Special Color Rendering Indices**

R1 =99	R2 =99	R3 =95	R4 =98	R5 =97	R6 =96	R7 =95	
R8 =92	R9 =79	R10=93	R11=97	R12=80	R13=99	R14=95	R15=96

**TM30**

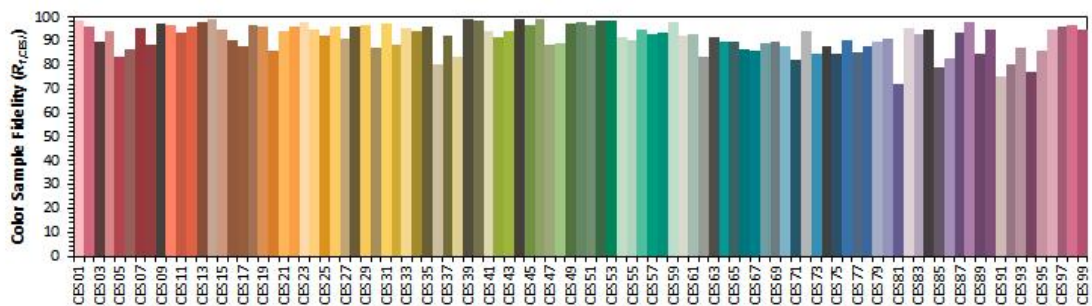
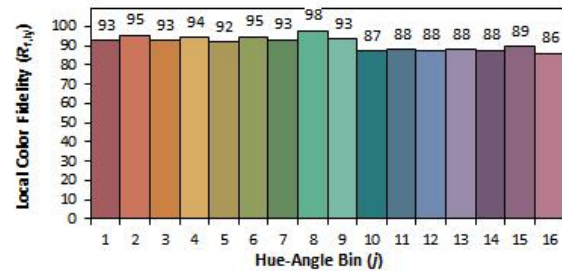
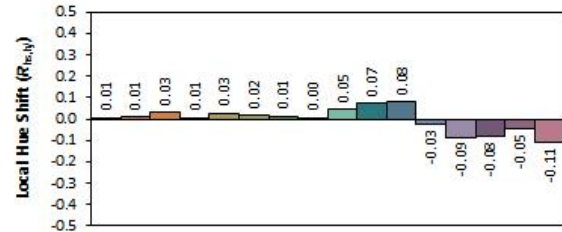
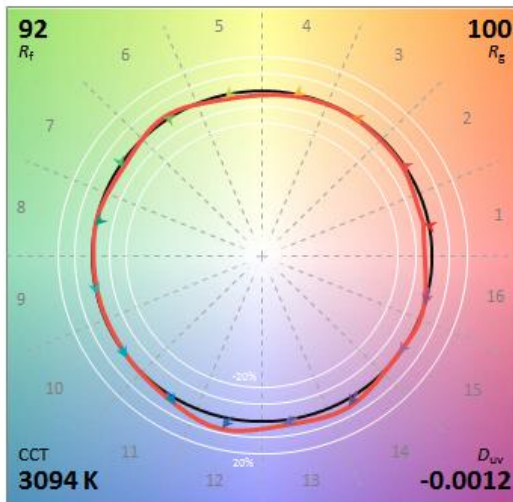
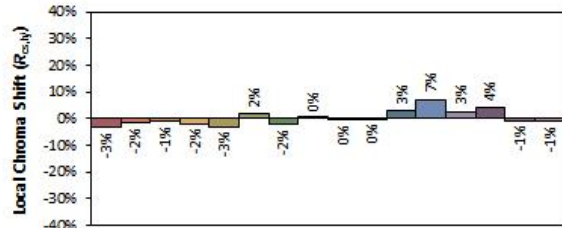
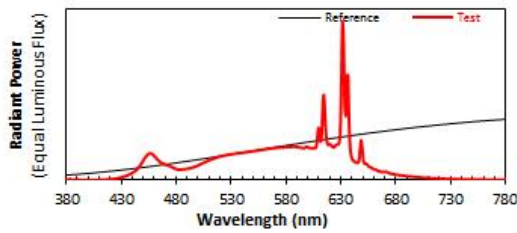
**ANSI/IES TM-30-18 Color Rendition Report**

**Source:** L128-xx90RC35xxxxx

**Manufacturer:** RAB Lighting INC.

**Date:** 2024-08-16

**Model:** ALR-SB(mode:3000K)



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

$x$     **0.4288**  
 $y$     **0.3983**  
 $u'$    **0.2478**  
 $v'$    **0.5179**

CIE 13.3-1995  
(CRI)  
 $R_a$     96  
 $R_9$     80

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

**2.4 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2024-08-16	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ALR-SB(mode:3500K)	<b>Total Operating Time (min)</b>	61

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD240728 NB-C1	120.0	60	0.1408	15.54	0.9196	42.26

**Chromaticity Measurement - Sphere-Spectroradiometer**

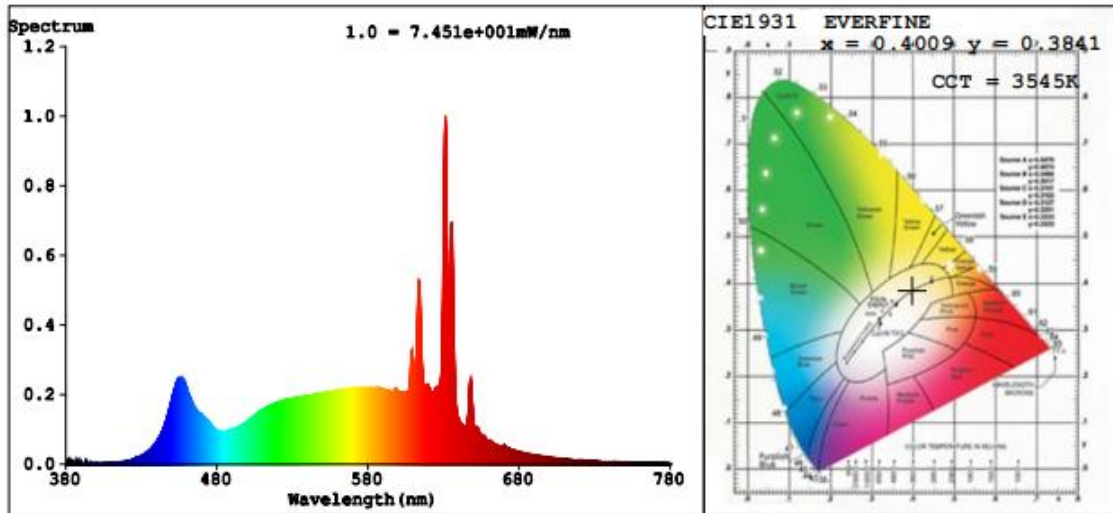
**Method(Self-absorption:1.1332) (4π geometry):**

Parameter	Result	Parameter	Result
Test Voltage (V)	120	Color Rendering Index (CRI)	97.0
Frequency (Hz)	60	R9	87
CCT (K)	3545	Rg	101
Duv	-0.0019	Rf	92
Chromaticity (x, y)	x=0.4009 y=0.3841	Rcs,h1(%)	-3
Chromaticity (u', v')	u'=0.2355v'=0.5078		

**Photometric Measurement –Sphere-Spectroradiometer Method:**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1091
Luminous Efficacy (lm/W)	70.19

**Spectral Power Distribution & Chromaticity Diagram**



**Special Color Rendering Indices**

R1 =99	R2 =99	R3 =96	R4 =99	R5 =98	R6 =95	R7 =96	
R8 =95	R9 =87	R10=96	R11=98	R12=77	R13=99	R14=96	R15=98

**TM30**

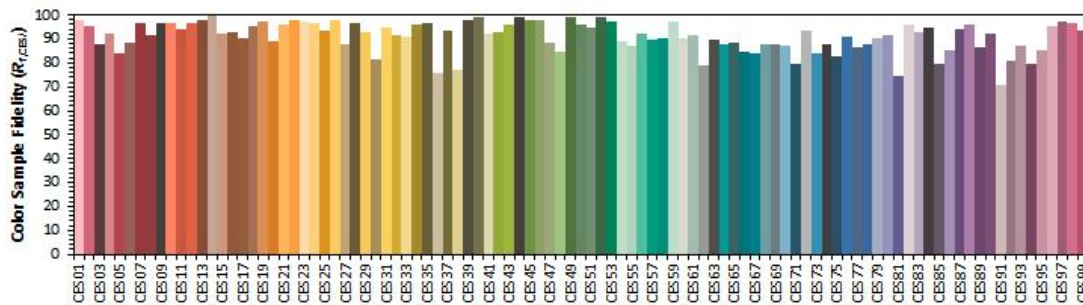
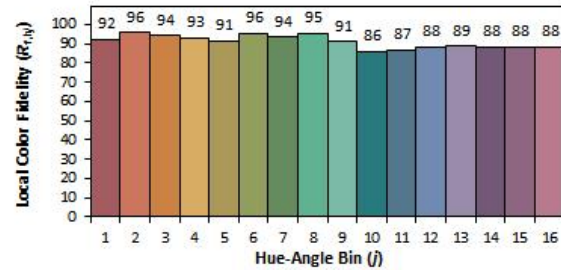
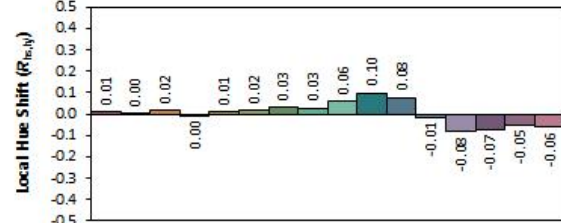
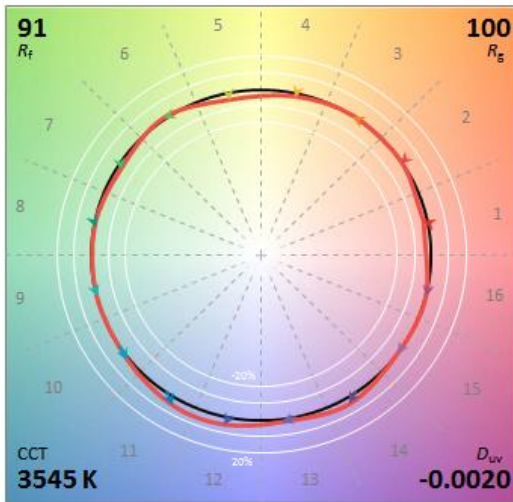
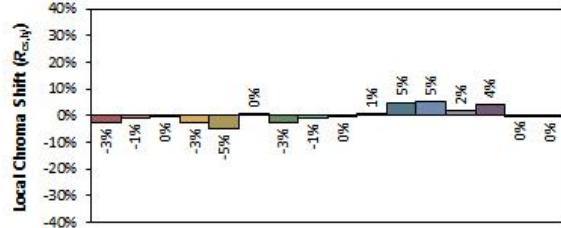
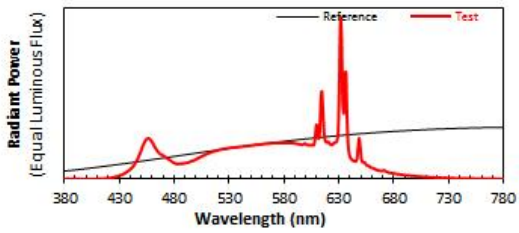
**ANSI/IES TM-30-18 Color Rendition Report**

Source: L128-xx90RC35xxxxx

Manufacturer: RAB Lighting INC.

Date: 2024-08-16

Model: ALR-SB(mode:3500K)



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

$x$  0.4009  
 $y$  0.3840  
 $u'$  0.2356  
 $v'$  0.5078

CIE 13.3-1995 (CRI)  
 $R_a$  97  
 $R_g$  88

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

**2.4 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2024-08-16	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ALR-SB(mode:4000K)	<b>Total Operating Time (min)</b>	61

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD240728 NB-C1	120.0	60	0.1431	15.80	0.9200	42.28

**Chromaticity Measurement - Sphere-Spectroradiometer**

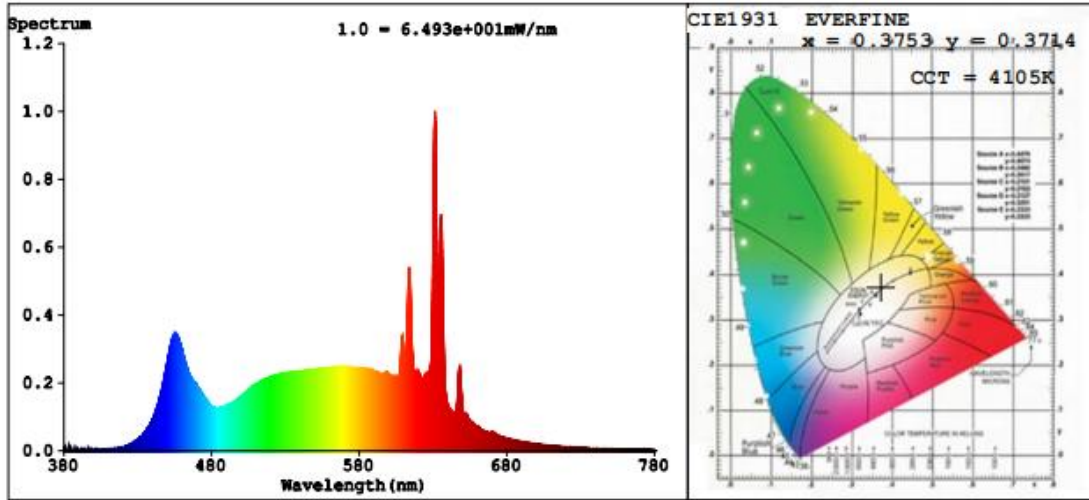
**Method(Self-absorption:1.1336) (4π geometry):**

Parameter	Result	Parameter	Result
Test Voltage (V)	120	Color Rendering Index (CRI)	96.7
Frequency (Hz)	60	R9	89
CCT (K)	4105	Rg	100
Duv	-0.0010	Rf	92
Chromaticity (x, y)	x=0.3753 y=0.3714	Rcs,h1(%)	-3
Chromaticity (u', v')	u'=0.2238v'=0.4984		

**Photometric Measurement –Sphere-Spectroradiometer Method:**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1086
Luminous Efficacy (lm/W)	68.73

**Spectral Power Distribution & Chromaticity Diagram**



**Special Color Rendering Indices**

R1 =98	R2 =100	R3 =96	R4 =97	R5 =96	R6 =95	R7 =96	
R8 =95	R9 =89	R10=96	R11=98	R12=72	R13=99	R14=97	R15=97

**TM30**

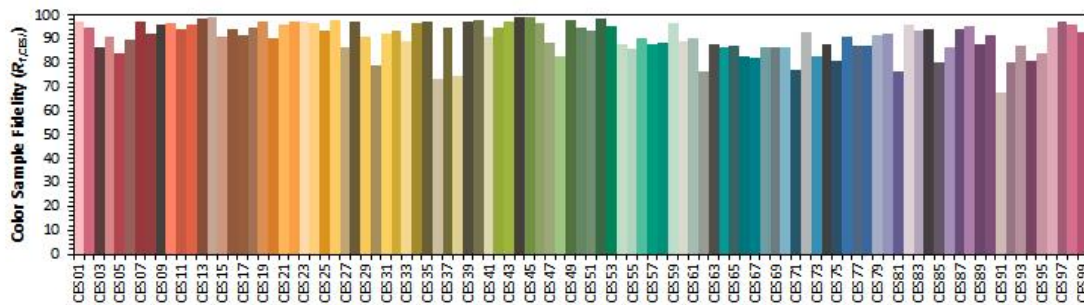
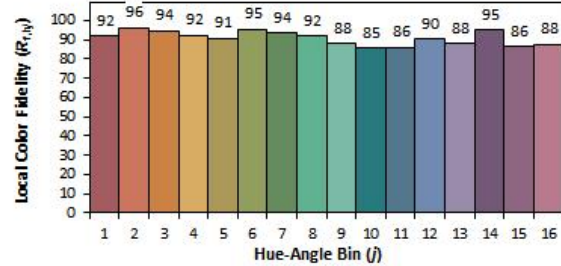
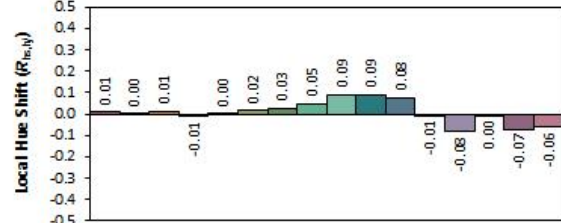
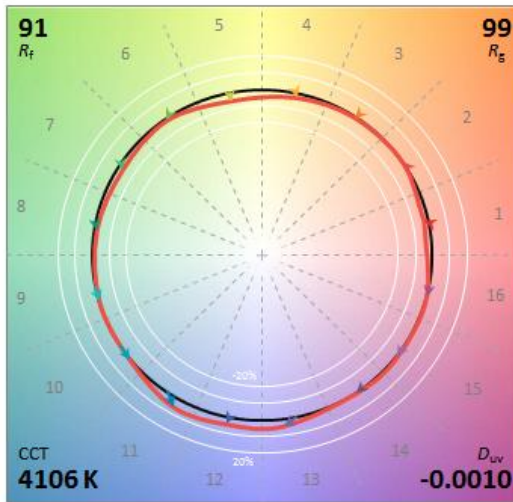
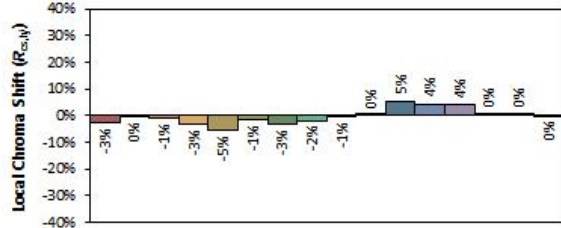
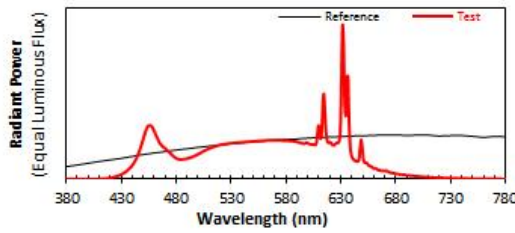
**ANSI/IES TM-30-18 Color Rendition Report**

Source: L128-xx90RC35xxxxx

Manufacturer: RAB Lighting INC.

Date: 2024-08-16

Model: ALR-SB(mode:4000K)



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

$x$  0.3753  
 $y$  0.3713  
 $u'$  0.2239  
 $v'$  0.4984

CIE 13.3-1995  
(CRI)  
 $R_a$  97  
 $R_g$  90

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

**2.5 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2024-08-16	<b>Test Ambient:</b>	25 ± 1° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	ALR-SB(mode:5000K)	<b>Total Operating Time (min)</b>	61

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
STD240728 NB-C1	120.0	60	0.1432	15.76	0.9172	42.3

**Chromaticity Measurement - Sphere-Spectroradiometer**

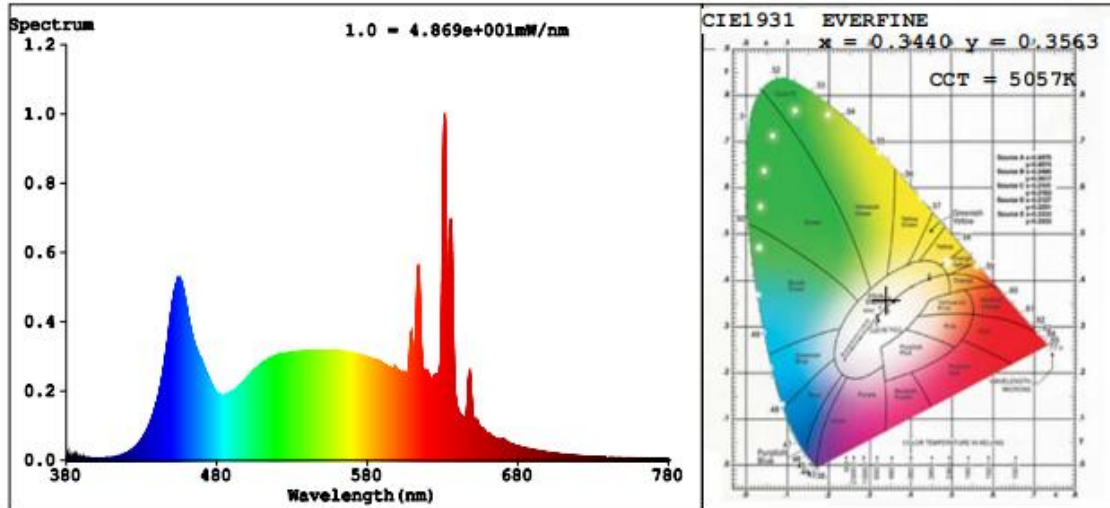
**Method(Self-absorption:1.1330) (4π geometry):**

Parameter	Result	Parameter	Result
Test Voltage (V)	120	Color Rendering Index (CRI)	95.0
Frequency (Hz)	60	R9	78
CCT (K)	5057	Rg	99
Duv	0.0028	Rf	92
Chromaticity (x, y)	x=0.3440 y=0.3563	Rcs,h1(%)	-4
Chromaticity (u', v')	u'=0.2089v'=0.4868		

**Photometric Measurement –Sphere-Spectroradiometer Method:**

Parameter	Result
Test Voltage (V)	120
Frequency (Hz)	60
Total Luminous (lm)	1029
Luminous Efficacy (lm/W)	65.29

**Spectral Power Distribution & Chromaticity Diagram**



**Special Color Rendering Indices**

<b>R1 =96</b>	<b>R2 =97</b>	<b>R3 =96</b>	<b>R4 =95</b>	<b>R5 =95</b>	<b>R6 =94</b>	<b>R7 =95</b>	
<b>R8 =92</b>	<b>R9 =78</b>	<b>R10=91</b>	<b>R11=95</b>	<b>R12=72</b>	<b>R13=97</b>	<b>R14=97</b>	<b>R15=95</b>

**TM30**

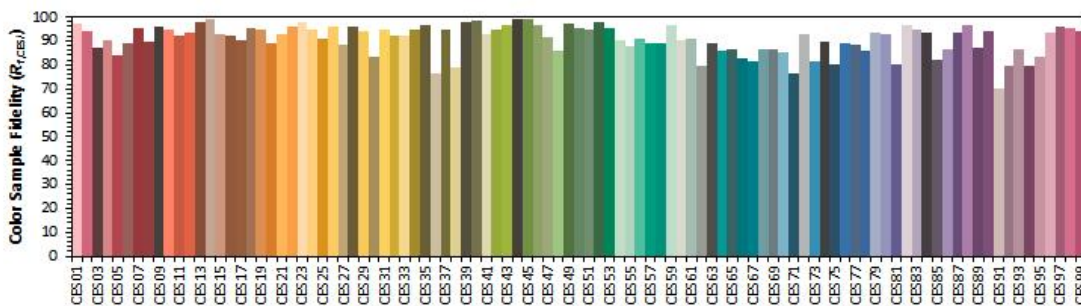
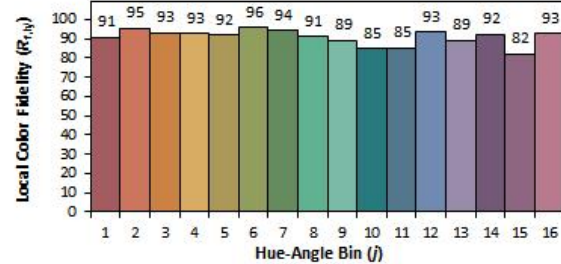
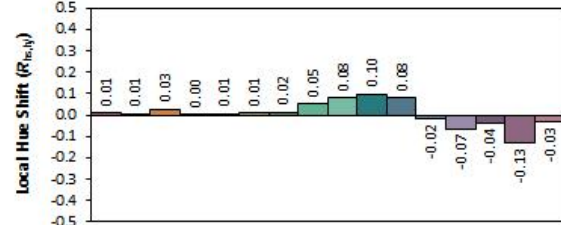
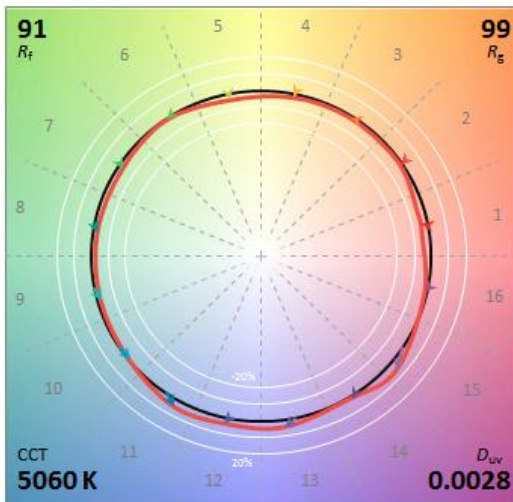
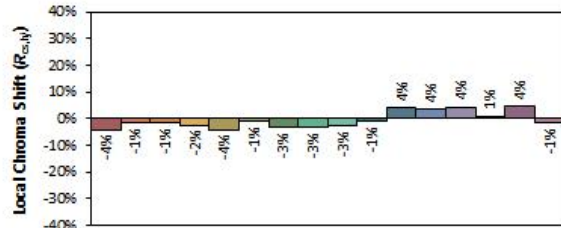
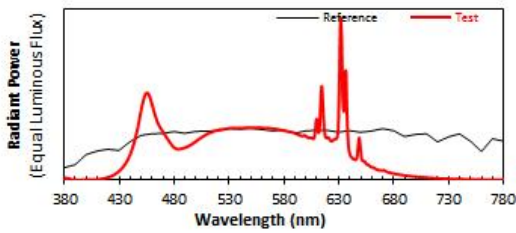
**ANSI/IES TM-30-18 Color Rendition Report**

Source: BXEN-50E-21M-3C

Manufacturer: RAB Lighting INC.

Date: 2024-08-16

Model: ALR-SB (mode:5000K)



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

$x$  **0.3439**  
 $y$  **0.3561**  
 $u'$  **0.2089**  
 $v'$  **0.4867**

CIE 13.3-1995  
(CRI)  
 $R_a$  95  
 $R_g$  79

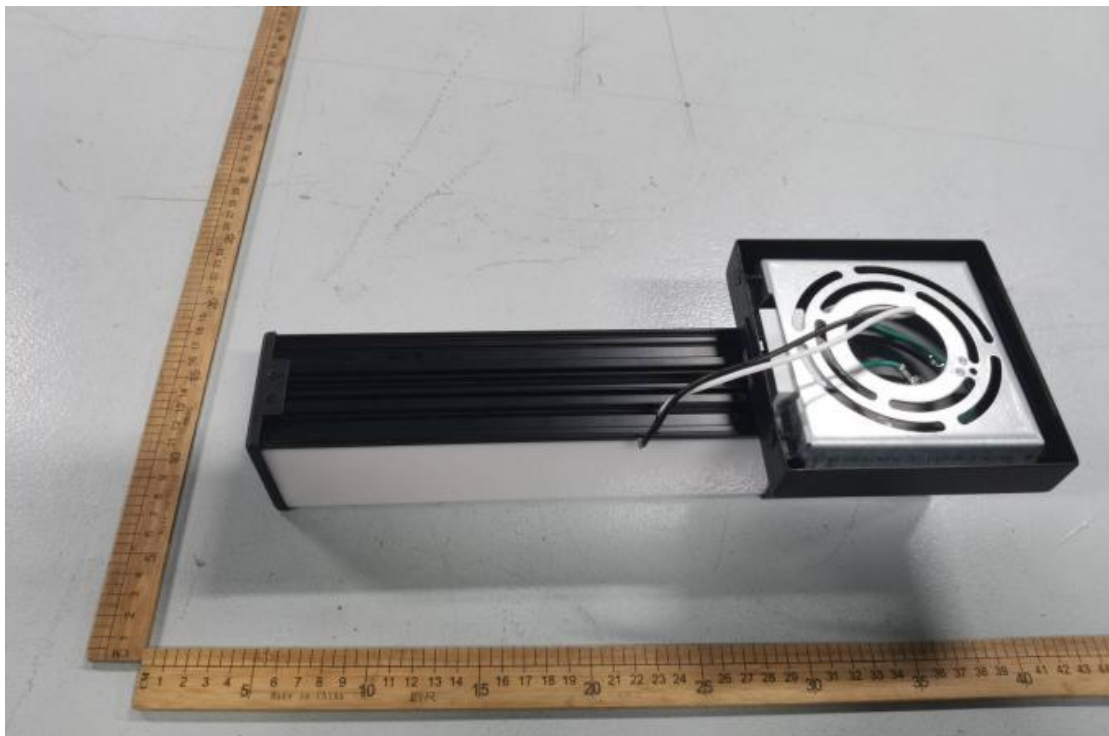
Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



### 3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-S-451	2 meter Integrating Sphere	Verified by D204 standard lamp	
ST-R-S-455	Spectral analysis system HAAS-1200	Verified by D204 standard lamp	
ST-R-S-452	Standard Lamp D204	2023-06-26	2026-06-25
ST-R-S-453	Power Meter for Integrating Sphere	2024-05-29	2025-05-28
ST-R-S-467	Hygrothermograph	2024-06-06	2025-06-05
ST-R-355	Goniophotometer system	Verified by D908S standard lamp	
ST-R-359	Standard Lamp D908S	2022-07-19	2025-07-18
ST-R-357	AC Power Source	2024-01-29	2025-01-28
ST-R-S-422	Power Meter for Goniophotometer	2024-05-29	2025-05-28
ST-R-S-354	hygrothermograph for Goniophotometer	2024-05-29	2025-05-28
Uncertainty: Photometric Measurement (Sphere):2.94%, k=2 Chromaticity Measurement(Sphere):52.28K, k=2 Photometric Measurement(Goniophotometer): 2.94%, k=2			

**4. Product Photo**





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