



UL LLC  
1075 W Lambert Rd Suite B  
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## Photometric Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-10-2014, IES LM-35-2002 (Withdrawn)  
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2017  
IES TM-30-2018

**Prepared For**  
**B-K Lighting INC**

Daniel Carrejo  
40429 Brickyard Dr.  
Madera, CA 93636  
United States

**Catalog Number**  
**RI-LED-TR-E137-NSP-WHP-9-C-INC-MT-PROTO-(4000K)**

Order Number  
13742921  
Test Number  
13742921.04

**Test Date**

2021-04-01 - 2021-04-02

Prepared By

Austin Duff, Technician

Approved By

Eric Gaudreau, Engineering Leader

The results contained in this report pertain only to the tested sample.  
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Laboratory results may not be representative of field performance  
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the  $4\pi$  geometry method.

Absorption correction was employed for Sphere measurement



**Luminaire Description:** White formed metal housing and clear glass lens  
**Lamp:** One (1) White LED with optic attached  
**Mounting:** Pole/Arm  
**Ballast/Driver:** One (1) PowerSelect PS60U100C14R

**Luminaire**



**Luminaire Characteristics**  
Luminous Diameter: 1.75 in.

## Summary of Results

### Integrating Sphere

Luminous Flux: 775.9 Lumens  
Efficacy: 59.18 lm/w  
CCT: 4299 K  
CRI (Ra): 88.5

### Distribution

Total Luminaire Output: 768.4 Lumens  
Luminaire Efficacy: 58.4 lm/w  
Maximum Candela: 10865 Candela

### Electrical Data at 120 VAC

Test Temperature: 25.1 °C  
Voltage: 120.1 VAC  
Current: 0.1111 A  
Power: 13.11 W  
Power Factor: 0.982  
Frequency: 60 Hz  
Current THD: 12.3 %



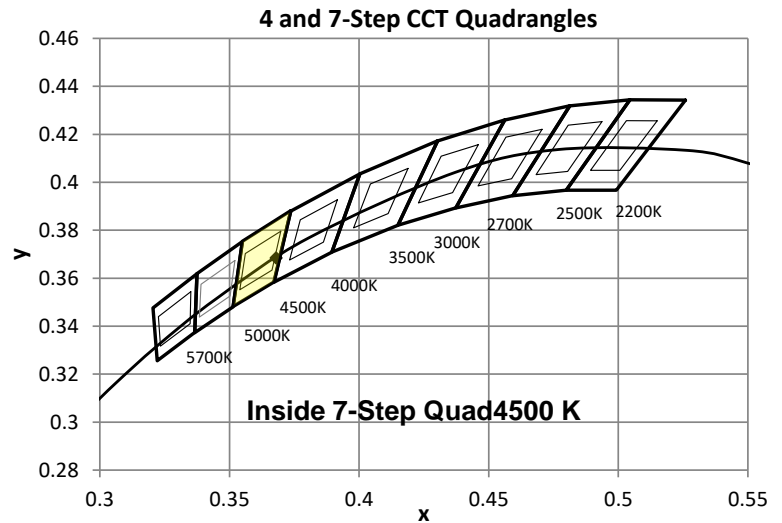
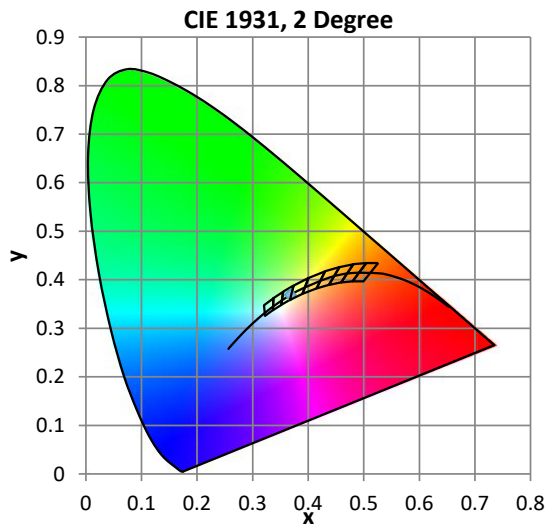
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.1 VAC	0.1111 A	13.11 W	0.982	60 Hz	12.3 %

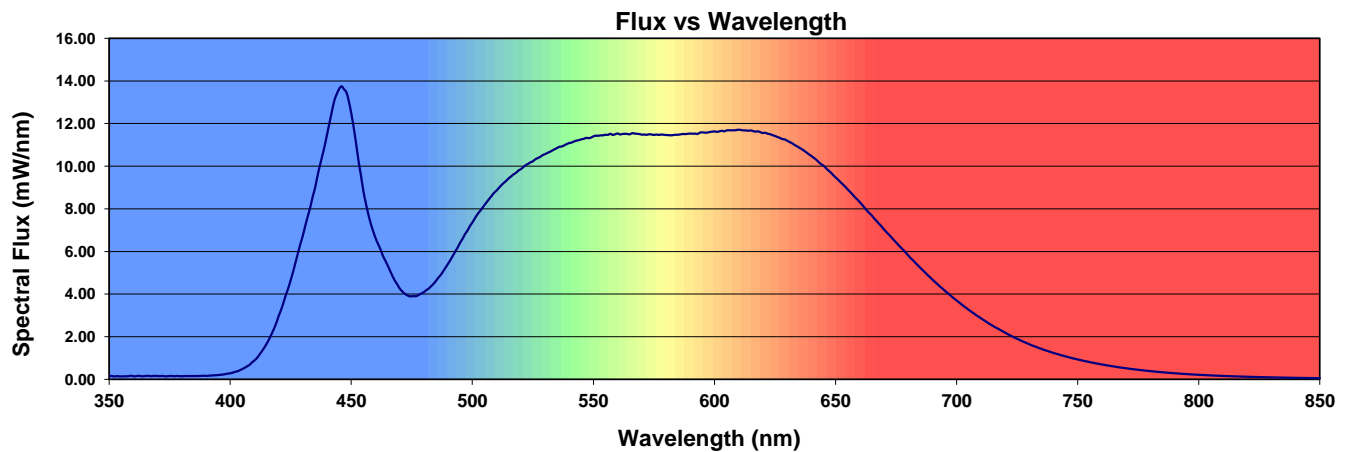
### Summary of Results

Total Output:	776 Lumens	Chromaticity (x):	0.3680
Efficacy:	59.2 lm/w	Chromaticity (y):	0.3685
CCT:	4299 K	Chromaticity (u'):	0.2202
CRI (Ra):	88.5	Chromaticity (v'):	0.4960
CRI (R9):	58.9	TM-30 Rf:	87
Peak Wavelength:	446 nm	TM-30 Rg:	102
Dominant Wavelength:	578 nm	TM-30 Rcs,h1:	-5%
S/P Ratio:	1.79	Duv:	-0.0001
M/P Ratio:	0.72	WELL Building Standard v2	



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
88.5	89.7	89.6	88.4	89.5	89.0	85.7	90.7	85.1	58.9	74.9	90.0	73.7	89.0	93.2	87.5





## Distribution - Goniophotometer

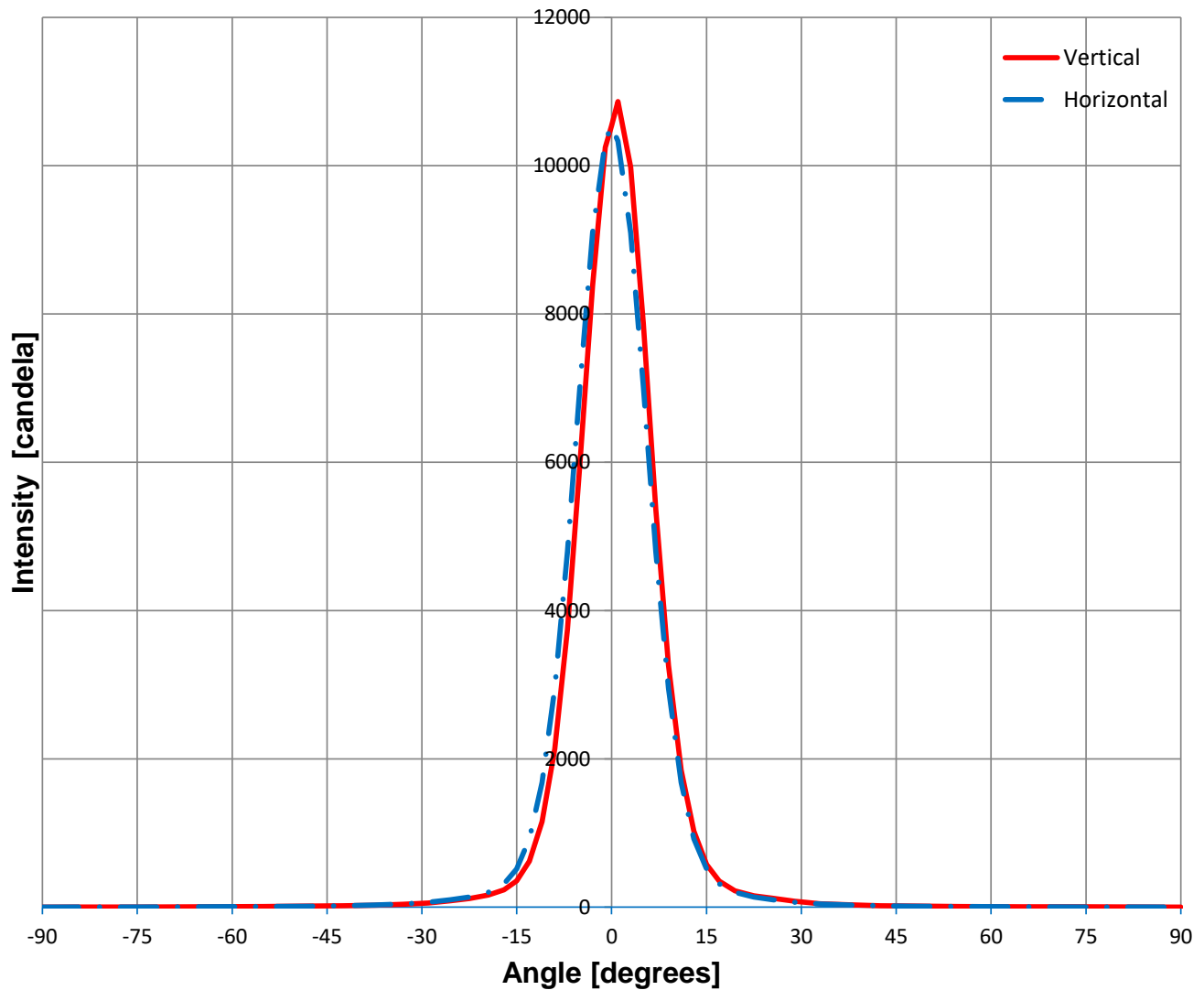
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.1 VAC	0.1114 A	13.15 W	0.983	60 Hz	12.2 %

### Summary of Results

Total Lumen Output:	768.4 Lumens	Maximum Candela:	10864.7 Candela
Luminaire Efficacy:	58.4 Lumens/Watt	Maximum Angle:	0 H 1 V
Field Lumens:	568.4 Lumens	Field Angle :	25.1 H X 24.1 V
Beam Lumens:	299.2 Lumens	Beam Angle :	12.8 H X 12.4 V
Spill Light Lumens:	200.0 Lumens	IESNA Type:	2 H X 2 V

### Maximum Candlepower Plot





### Candela Tabulation

Lateral Angle (Degrees)

	0	1	3	5	7	9	11	13	15	17	19.5
85.0	0	0	1	1	1	1	1	1	1	1	1
75.0	3	3	3	3	3	3	3	3	3	3	3
65.0	5	5	5	5	5	5	5	5	5	5	5
55.0	8	8	8	8	8	8	9	9	8	8	8
47.5	13	13	13	13	13	13	13	13	12	12	11
42.5	20	19	19	18	18	18	17	17	16	15	15
37.5	30	29	28	27	27	26	25	24	23	21	20
33.0	46	45	43	42	41	39	37	35	32	30	27
29.0	77	74	69	68	65	61	57	52	47	43	37
25.5	117	112	106	103	99	93	85	77	68	60	51
22.5	153	148	142	139	133	125	116	105	93	81	68
19.5	220	209	199	191	179	165	150	135	120	106	88
17.0	351	322	304	283	252	221	192	167	146	128	105
15.0	577	511	482	430	366	303	248	204	172	147	120
13.0	1026	877	828	705	572	441	334	261	205	167	134
11.0	1848	1558	1465	1205	925	671	481	337	249	192	148
9.0	3259	2781	2537	2063	1518	1050	683	445	305	223	164
7.0	5365	4659	4157	3304	2370	1546	942	584	375	254	177
5.0	7869	7019	6169	4848	3351	2120	1259	726	437	284	190
3.0	9980	9111	8039	6197	4264	2647	1538	864	499	311	198
1.0	10865	10245	8978	6983	4790	2943	1677	919	516	316	200
0.0	10535	10329	9095	7020	4795	2953	1679	922	515	315	199
-1.0	10247	9994	8806	6787	4665	2888	1655	914	514	314	199
-3.0	8378	8622	7497	5793	4045	2516	1438	819	473	295	191
-5.0	5977	6381	5614	4343	3069	1934	1161	682	410	266	178
-7.0	3747	4184	3731	2947	2062	1378	846	528	341	235	165
-9.0	2134	2465	2228	1785	1310	892	594	395	272	201	150
-11.0	1152	1354	1233	1019	780	563	404	290	220	171	134
-13.0	617	715	673	578	471	368	279	221	178	148	120
-15.0	354	397	385	348	298	250	209	174	148	128	106
-17.0	232	249	246	230	208	184	163	143	126	111	92
-19.5	161	167	166	158	151	140	128	116	104	91	76
-22.5	117	120	121	116	111	105	98	89	80	71	59
-25.5	85	88	89	86	82	78	72	67	60	53	45
-29.0	56	57	59	57	55	52	49	46	42	39	34
-33.0	37	37	38	37	36	35	34	32	30	28	25
-37.5	26	26	26	26	25	25	24	22	22	20	19
-42.5	18	19	19	18	18	18	18	17	16	15	14
-47.5	14	14	14	14	14	13	13	12	12	12	11
-55.0	8	8	8	8	8	8	8	8	8	7	7
-65.0	5	5	5	5	5	5	5	4	4	4	4
-75.0	3	3	3	3	3	3	3	2	2	2	2
-85.0	1	1	1	1	1	1	1	1	1	1	1

Vertical Angle (Degrees)



### Candela Tabulation

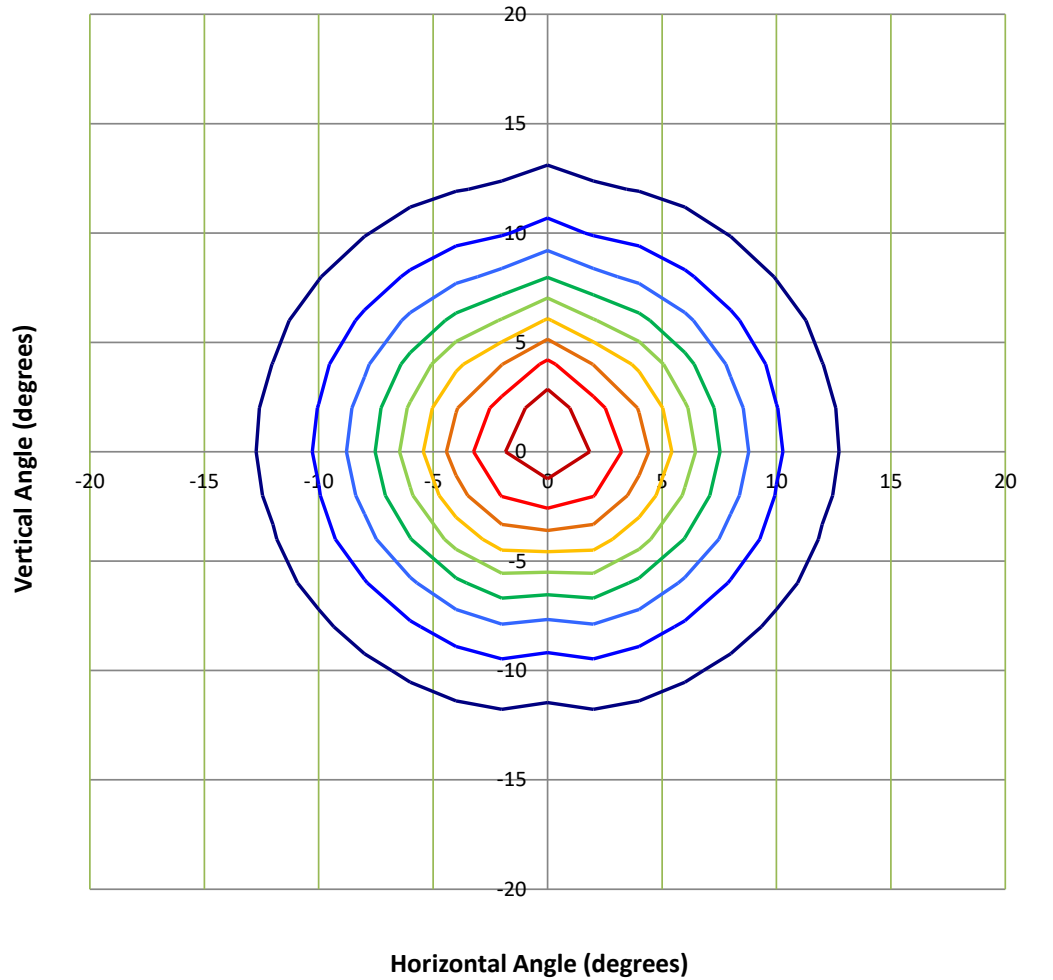
Lateral Angle (Degrees)

Vertical Angle (Degrees)

	22.5	25.5	29	33	37.5	42.5	47.5	55	65	75	85
85.0	1	1	1	1	0	0	0	0	0	0	0
75.0	2	2	2	2	2	2	2	1	1	0	0
65.0	5	4	4	4	4	3	3	2	1	1	0
55.0	7	7	6	6	6	5	4	3	2	1	0
47.5	11	10	9	8	8	7	6	4	3	1	0
42.5	13	12	11	10	9	8	6	5	3	2	0
37.5	18	16	14	12	10	8	7	5	3	2	0
33.0	24	21	18	15	12	9	8	6	4	2	1
29.0	31	26	22	18	14	11	8	6	4	2	1
25.5	41	34	26	21	16	12	9	7	4	2	1
22.5	53	42	31	23	18	13	10	7	4	2	1
19.5	68	51	37	26	19	14	10	7	4	2	1
17.0	81	60	43	29	21	15	11	7	4	2	1
15.0	91	68	47	32	22	16	11	7	4	2	1
13.0	102	75	51	34	23	16	11	7	4	2	1
11.0	112	82	56	37	24	17	12	7	4	2	1
9.0	120	89	60	39	25	17	12	7	4	2	1
7.0	128	94	63	40	26	17	12	7	4	2	1
5.0	134	98	66	41	26	18	12	7	5	2	1
3.0	137	99	67	42	27	18	12	7	5	3	1
1.0	137	100	67	42	27	18	12	7	5	3	1
0.0	137	99	67	42	27	18	12	7	5	3	1
-1.0	136	99	66	42	27	18	12	7	5	3	1
-3.0	134	98	65	42	27	18	12	7	4	3	1
-5.0	128	94	63	41	26	18	12	7	4	3	1
-7.0	121	89	60	39	25	17	12	7	4	3	1
-9.0	113	83	56	37	25	17	12	7	4	3	1
-11.0	102	76	52	36	24	16	11	7	4	3	1
-13.0	92	69	48	34	23	16	11	7	4	2	1
-15.0	82	61	44	31	22	15	11	7	4	2	1
-17.0	71	54	40	29	20	14	10	7	4	2	1
-19.5	60	46	35	26	19	14	10	7	4	2	1
-22.5	47	38	30	22	17	13	10	6	4	2	1
-25.5	38	32	25	20	15	11	9	6	4	2	1
-29.0	29	25	21	17	13	10	8	6	4	2	1
-33.0	22	20	17	14	11	9	7	5	3	2	1
-37.5	17	15	14	12	10	8	6	5	3	2	1
-42.5	13	12	11	9	8	7	5	4	3	2	1
-47.5	10	9	8	7	7	6	5	4	3	1	1
-55.0	7	7	6	6	5	4	4	3	2	1	0
-65.0	4	4	4	4	3	3	3	2	1	1	0
-75.0	2	2	2	2	2	2	2	1	1	0	0
-85.0	1	1	1	1	0	0	0	1	0	0	0



### Isocandela Diagram (Percent of Maximum Intensity)





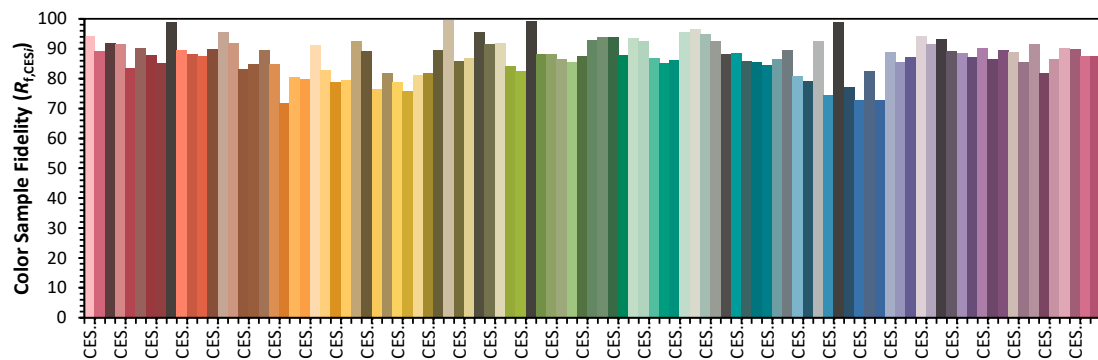
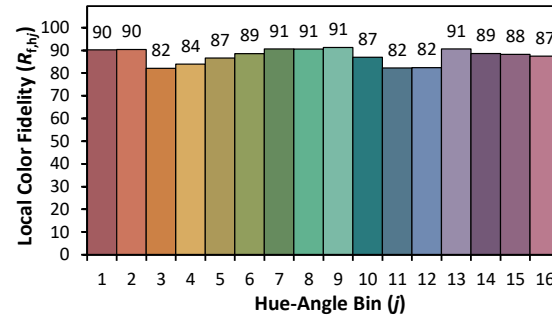
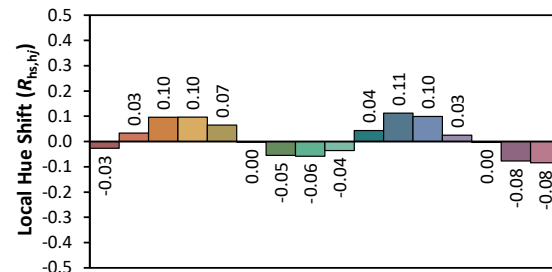
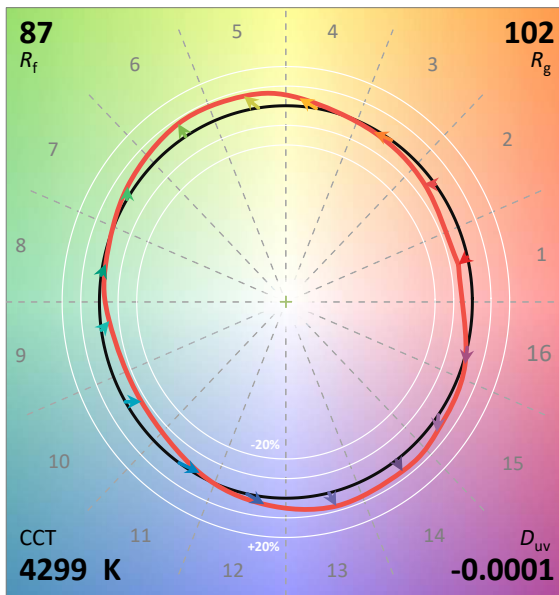
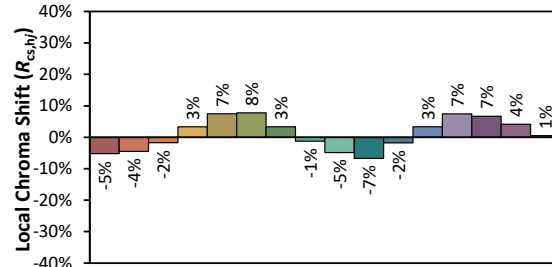
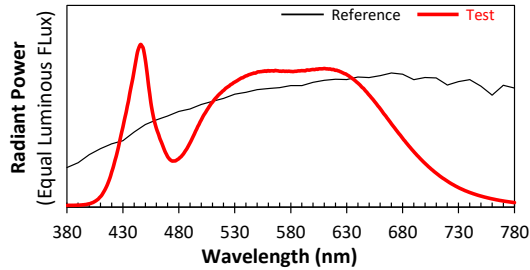
# ANSI/IES TM-30-18 Color Rendition Report

Source: Test Number: 13742921.04

Manufacturer: B-K Lighting INC

Date: 2021-04-01

Model: RI-LED-TR-E133-NSP-WHP-9-C-INC-N



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

x 0.3680  
y 0.3685  
u' 0.2202  
v' 0.4960

CIE 13.3-1995  
(CRI)

R<sub>a</sub> 88  
R<sub>g</sub> 59

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