



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300



## Photometric Test Report

Relevant Standards  
IES LM-79-2019, ANSI C82.77-10-2014, UL 1598-2008  
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2017  
IES TM-30-2018

Prepared For  
**RIG-A-LITE PARTNERSHIP LTD**  
8500 HANSEN RD  
HOUSTON, TX 77075-1006  
United States

### Catalog Number

**XP100L43LU**

Order Number

**15025310**

Test Number

**15025310.04**

### Test Date

2023-11-15 - 2023-11-17

Prepared By

Dylan Fonner, Laboratory Technician

Approved By

Jesse Litchfield, Project Handler

The results contained in this report pertain only to the tested sample.  
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.  
This report must not be used by the client to claim product certification, approval, or endorsement by  
NVLAP, NIST, or any agency of the Federal Government.



## Table of Contents

<b>Summary of Results</b>	Page 3
<b>Integrating Sphere Results</b>	Page 4
<b>Distribution Results</b>	
Conditions / Summary of Results / Polar Plot / Zonal Lumens	Page 5
Candela Tabulation / Average LuminanceFull TM-30 Report	Page 6
Coefficients of Utilization / Cone of Light	Page 7
ISOFootcandle Plot	Page 8
Quick Select Table	Page
<b>In-Situ Results</b>	Page 9
<b>Full TM-30 Report</b>	Page 10

The device under test emits no detectable uplight, as defined by ANSI/IES LM-75-19.  
For the purpose of this report, certain non-zero uplight readings have been assigned a zero value, in accordance with the requirements of ANSI/IES LM-75-19

Laboratory results may not be representative of field performance  
Ballast factors have not been applied

Testing was performed in a 3-meter integrating sphere using the  $4\pi$  geometry method.

Absorption correction was employed for Sphere measurement



**Luminaire Description:** White metal housing with 3 tubular lights and driver housing on top  
**Lamp:** 504 LEDs across three LED boards (168 per LED board)  
**Mounting:** Pendant  
**Ballast/Driver:** Philips Advance Driver XIO55C180V054BSJ1

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 46.00 in.  
Luminous Width: 17.00 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 11230 Lumens  
Efficacy: 153.17 lm/w  
CCT: 3971 K  
CRI (Ra): 83.7

**Distribution**

Total Luminaire Output: 11390 Lumens  
Luminaire Efficacy: 155.5 lm/w  
Maximum Candela: 4057 Candela

**Electrical Data at 120 VAC**

Test Temperature: 25.3 °C  
Voltage: 120.0 VAC  
Current: 0.6119 A  
Power: 73.32 W  
Power Factor: 0.998  
Frequency: 60 Hz  
Current THD: 2.85 %

**In-Situ**

LED Temperature: 49.6 °C  
Driver Temperature: 39.2 °C  
Measured LED Current: 0.1419 A

Temperature is offset to an ambient temperature of 25°C as described in UL1598-2008.

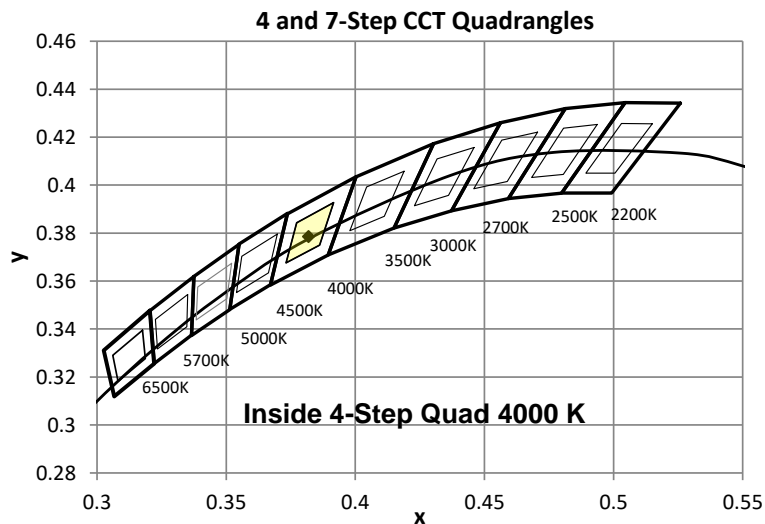
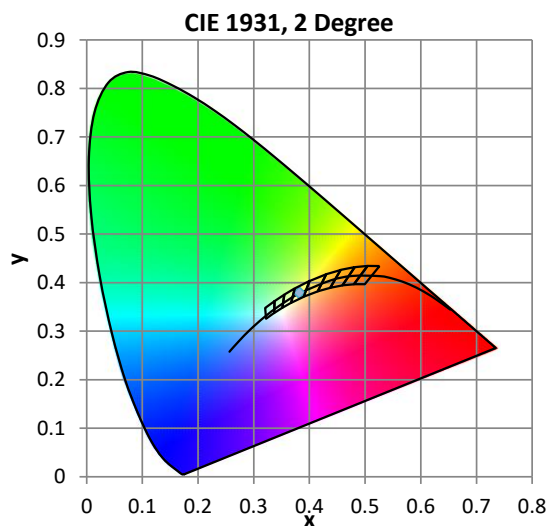
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.0 VAC	0.6119 A	73.32 W	0.998	60 Hz	2.85 %

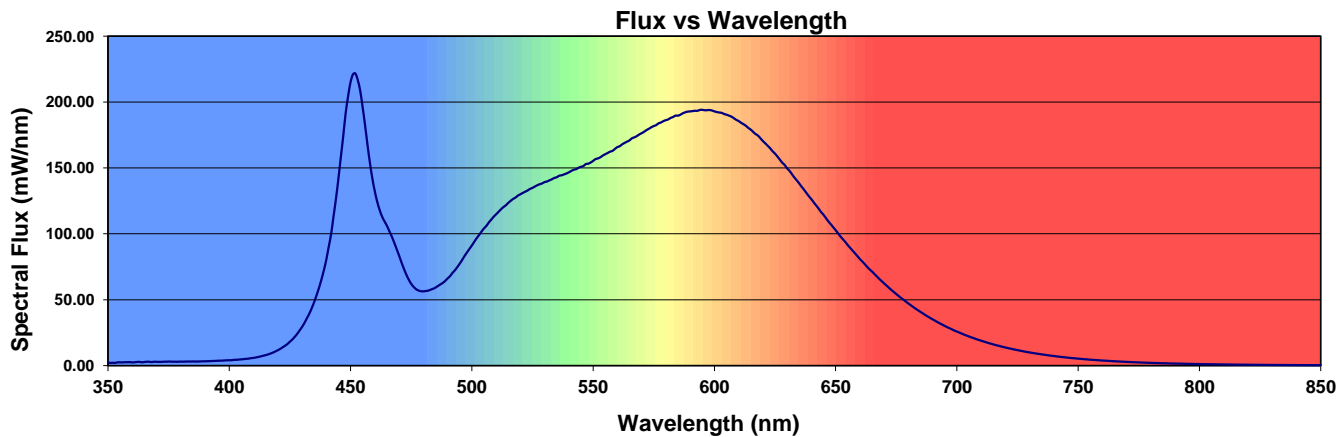
### Summary of Results

<b>Total Output:</b>	11230 Lumens	<b>Chromaticity (x):</b>	0.3819
<b>Efficacy:</b>	153.2 lm/w	<b>Chromaticity (y):</b>	0.3786
<b>CCT:</b>	3971 K	<b>Chromaticity (u'):</b>	0.2253
<b>CRI (Ra):</b>	83.7	<b>Chromaticity (v'):</b>	0.5026
<b>CRI (R9):</b>	12.4	<b>TM-30 Rf:</b>	85
<b>Peak Wavelength:</b>	452 nm	<b>TM-30 Rg:</b>	96
<b>Dominant Wavelength:</b>	555 nm	<b>TM-30 Rcs,h1:</b>	-11%
<b>S/P Ratio:</b>	1.68	<b>Duv:</b>	0.0005
<b>M/P Ratio:</b>	0.68	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
83.7	82.2	89.8	95.0	82.6	82.1	85.6	86.6	65.9	12.4	75.4	81.6	62.4	84.1	97.4	76.3



## Distribution - Goniophotometer

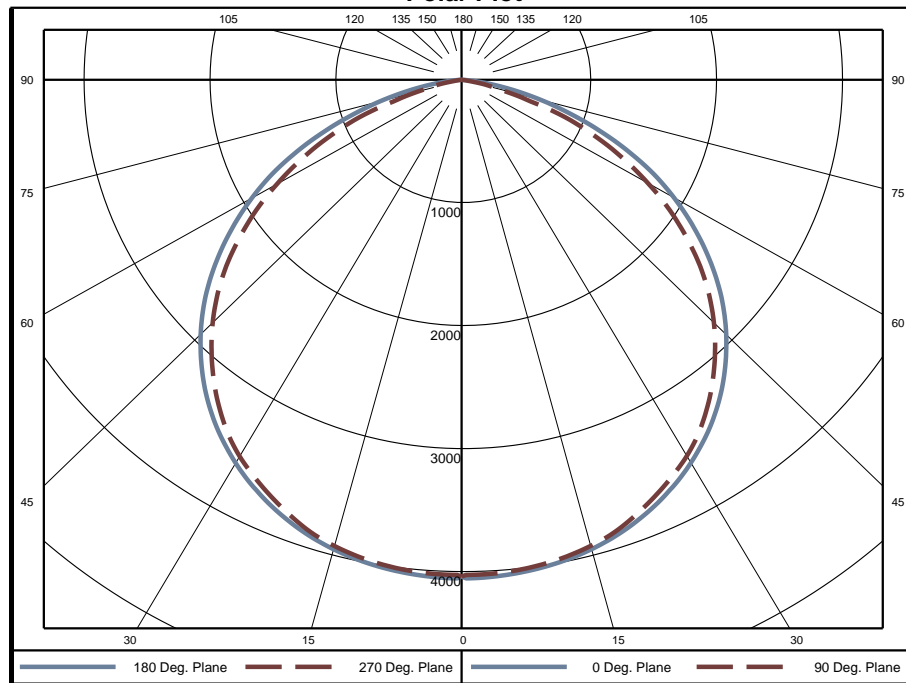
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	0.6112 A	73.23 W	0.998	60 Hz	2.89 %

### Summary of Results

<b>Spacing Criteria</b>	<b>Total Lumen Output:</b>	11390 Lumens
0-180: 1.32	<b>Luminaire Efficacy:</b>	155.5 lm/w
90-270: 1.30	<b>Maximum Candela:</b>	4057 Candela
<b>Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)</b>		
<b>Crosswise:</b> 22.6	<b>Endwise:</b> 21.3	

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	96	0.8%	60-65	771	6.8%	120-125	0	0.0%
5-10	287	2.5%	65-70	582	5.1%	125-130	0	0.0%
10-15	470	4.1%	70-75	366	3.2%	130-135	0	0.0%
15-20	641	5.6%	75-80	171	1.5%	135-140	0	0.0%
20-25	792	7.0%	80-85	44	0.4%	140-145	0	0.0%
25-30	919	8.1%	85-90	5	0.0%	145-150	0	0.0%
30-35	1019	8.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	1082	9.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	1106	9.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	1090	9.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	1027	9.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	920	8.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	5306	46.6%
0-60	9449	83.0%
0-90	11388	100.0%
90-180	0	0.0%

**Candela Tabulation**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	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	4040	4040	4040	4040	4040	4040	4040	4040	4040	4040	4040	4040	4040	4040	4040
	5	4044	4029	4022	4035	4019	4035	4022	4029	4044	4029	4022	4035	4019	4035	4022
	10	4009	3995	3986	4000	3985	4000	3986	3995	4009	3995	3986	4000	3985	4000	3986
	15	3951	3935	3924	3936	3924	3936	3924	3935	3951	3935	3924	3936	3924	3936	3924
	20	3863	3849	3832	3837	3824	3837	3832	3849	3863	3849	3832	3837	3824	3837	3832
	25	3744	3728	3701	3696	3687	3696	3701	3728	3744	3728	3701	3696	3687	3696	3701
	30	3594	3572	3544	3540	3533	3540	3544	3572	3594	3572	3544	3540	3533	3540	3544
	35	3411	3385	3350	3336	3330	3336	3350	3385	3411	3385	3350	3336	3330	3336	3350
	40	3189	3155	3111	3088	3080	3088	3111	3155	3189	3155	3111	3088	3080	3088	3111
	45	2929	2894	2839	2811	2799	2811	2839	2894	2929	2894	2839	2811	2799	2811	2839
	50	2630	2589	2524	2492	2477	2492	2524	2589	2630	2589	2524	2492	2477	2492	2524
	55	2290	2243	2167	2119	2104	2119	2167	2243	2290	2243	2167	2119	2104	2119	2167
	60	1921	1870	1782	1721	1693	1721	1782	1870	1921	1870	1782	1721	1693	1721	1782
	65	1514	1448	1370	1292	1266	1292	1370	1448	1514	1448	1370	1292	1266	1292	1370
	70	1072	1003	914	845	811	845	914	1003	1072	1003	914	845	811	845	914
	75	659	589	512	374	325	374	512	589	659	589	512	374	325	374	512
	80	304	241	142	117	86	117	142	241	304	241	142	117	86	117	142
	85	70	35	13	8	8	8	13	35	70	35	13	8	8	8	13
	90	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
	100	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
	110	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
	120	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
	130	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
	140	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
	150	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
	160	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
	170	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
	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Average Luminance (cd/m<sup>2</sup>)**

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	8009	8009	8009
	45	8211	7958	7847
	55	7913	7488	7269
	65	7099	6428	5935
	75	5049	3920	2490
	85	1584	306	178



### Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	91	81	73	67	89	80	72	66	77	70	65	74	69	64	71	67	63	61
4	84	72	63	57	81	71	63	56	68	61	56	66	60	55	64	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

### Beam and Field Information

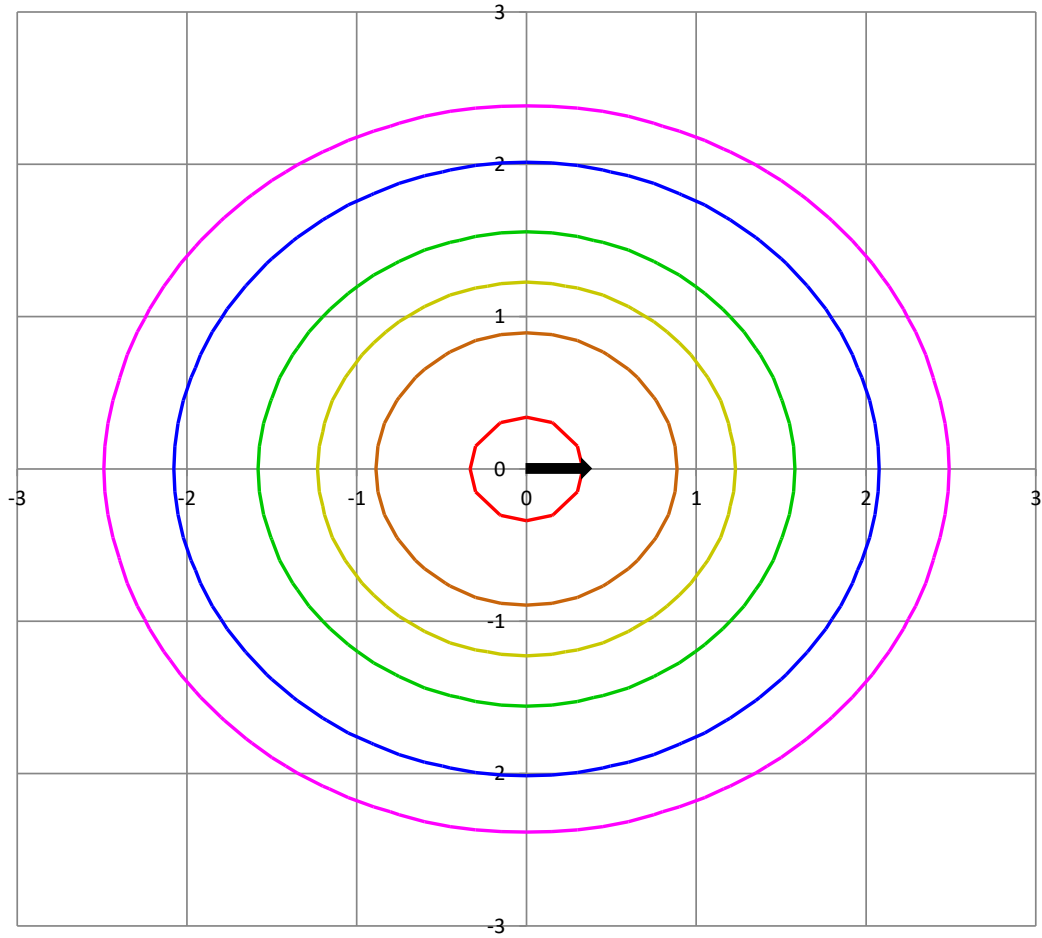
CIE Type:	Direct
Center Beam Intensity:	4040 Candela
Central Cone Intensity:	4037 Candela
Beam Flux:	8949.2 Lumens
Beam Angle (0-180):	117.4 Degrees
Beam Angle (90-270):	112.1 Degrees
Field Angle (0-180):	156.9 Degrees
Field Angle (90-270):	148.1 Degrees

### Cone of Light Tabulation

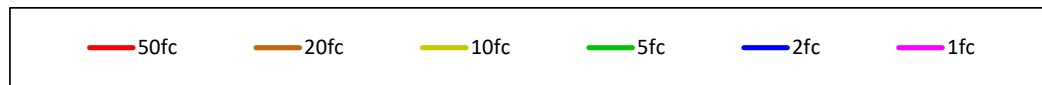
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		253	5.22
6.00		112	7.83
8.00		63.1	10.4
10.0		40.4	13.0
12.0		28.1	15.7
14.0		20.6	18.3
16.0		15.8	20.9

# ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height





## In-Situ Test

### In-Situ Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
23.3 °C	120.3 VAC	N/A	N/A	N/A	60 Hz	N/A

### Summary of Results

LED Temperature: 49.6 °C  
 Driver Temperature: 39.2 °C  
 Measured LED Current: 0.1419 A

Temperatures are offset to an ambient temperature of 25°C as described in UL1598-2008

#### LED Temperature Location



#### Thermocouple Reference



#### Driver Temperature Location



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

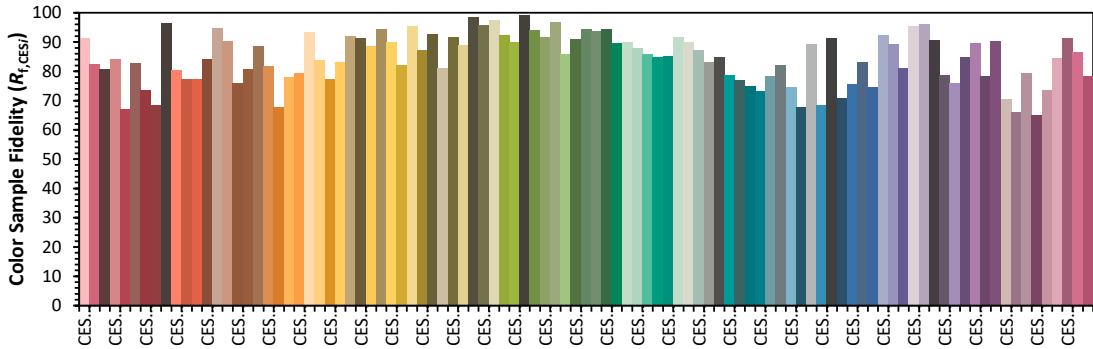
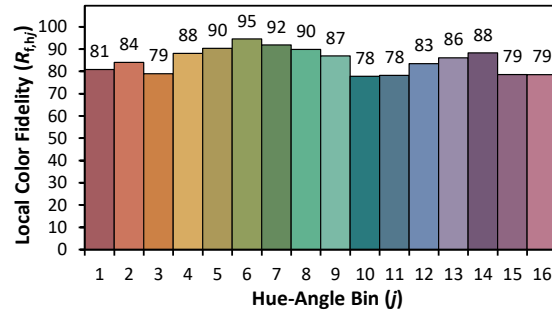
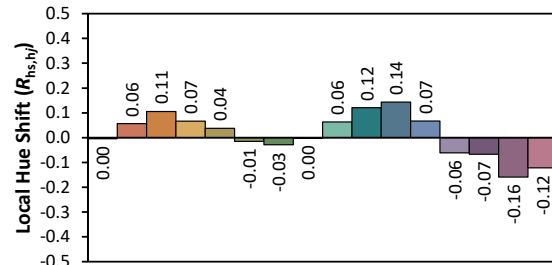
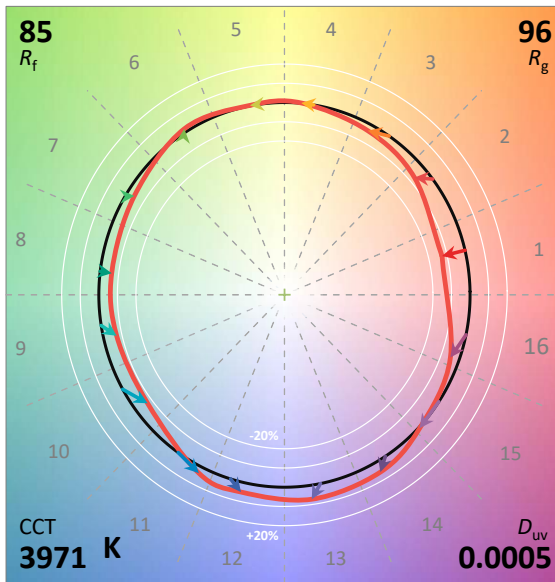
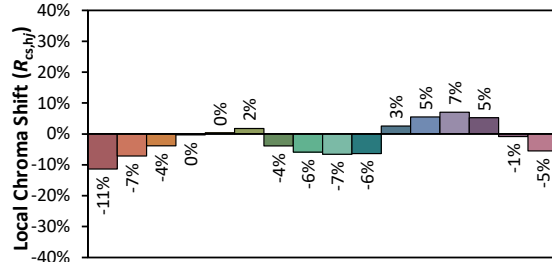
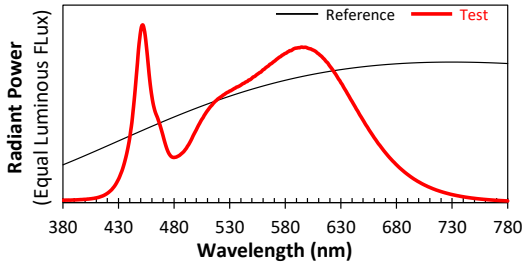
Date: 2023-11-15

Manufacturer:

RIG-A-LITE PARTNERSHIP LTD

Model:

XP100L43LU



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

x 0.3819  
y 0.3786  
u' 0.2253  
v' 0.5026

CIE 13.3-1995  
(CRI)

$R_a$  84  
 $R_g$  12

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