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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

XP160L44LU

Order Number

15075616

Test Number

15075616.02

Test Date

2023-11-30 - 2023-12-04

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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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 4π geometry method.

Absorption correction was employed for Sphere measurement



Luminaire Description: White metal housing with 4 tubular lights and driver housing on top
Lamp: 672 LEDs across four LED boards (168 per LED board)
Mounting: Pendant
Ballast/Driver: Two Philips Advance Driver XI095C275V054BSS2

Luminaire



Luminaire Characteristics

Luminous Length: 46.00 in.
Luminous Width: 23.00 in.

Summary of Results

Integrating Sphere

Luminous Flux: 15790 Lumens
Efficacy: 157.62 lm/w
CCT: 3973 K
CRI (Ra): 83.6

Distribution

Total Luminaire Output: 15590 Lumens
Luminaire Efficacy: 155.7 lm/w
Maximum Candela: 5547 Candela

Electrical Data at 120 VAC

Test Temperature: 25.3 °C
Voltage: 120.0 VAC
Current: 0.8377 A
Power: 100.2 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 2.74 %

In-Situ

LED Temperature: 45.9 °C
Driver Temperature: 47.5 °C
Measured LED Current: 0.04530 A

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

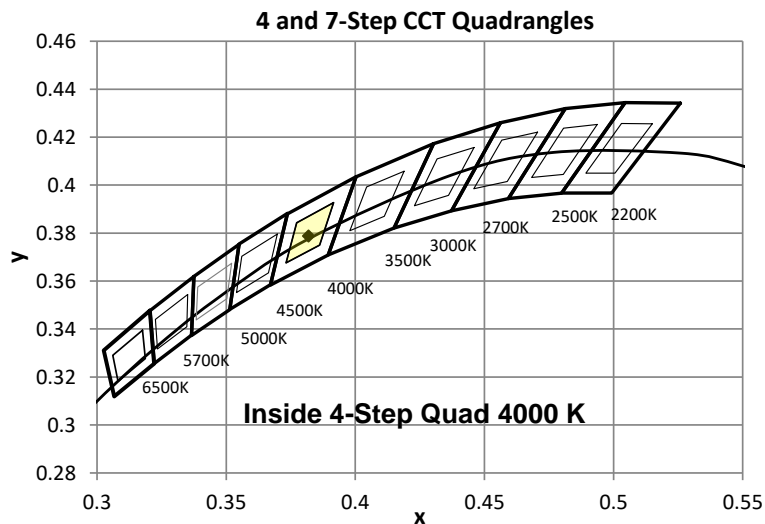
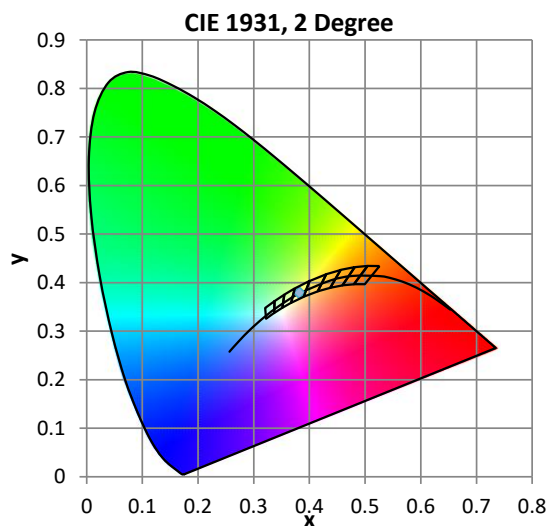
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.0 VAC	0.8377 A	100.2 W	0.997	60 Hz	2.74 %

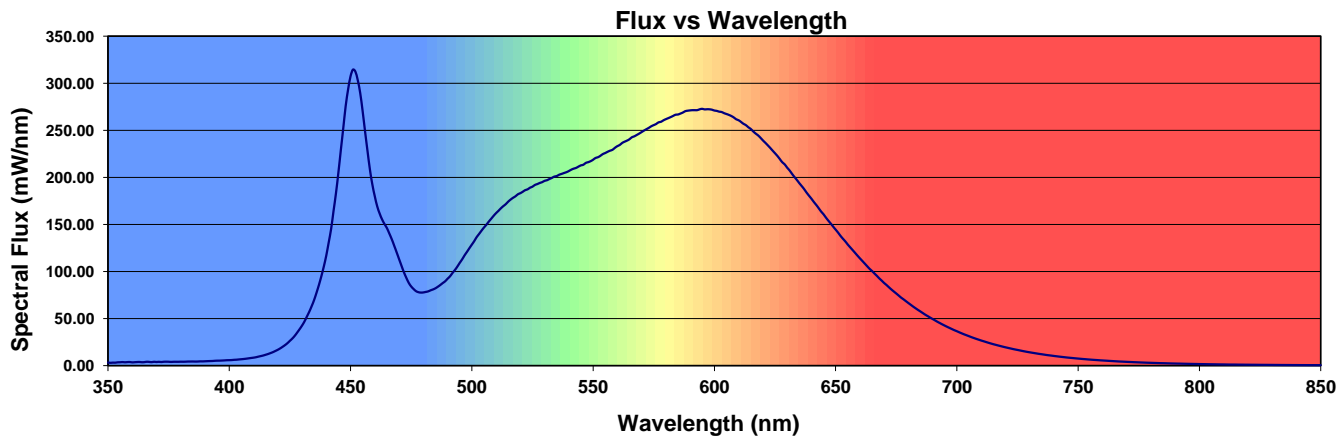
Summary of Results

Total Output:	15790 Lumens	Chromaticity (x):	0.3819
Efficacy:	157.6 lm/w	Chromaticity (y):	0.3788
CCT:	3973 K	Chromaticity (u'):	0.2253
CRI (Ra):	83.6	Chromaticity (v'):	0.5027
CRI (R9):	12.1	TM-30 Rf:	85
Peak Wavelength:	451 nm	TM-30 Rg:	96
Dominant Wavelength:	555 nm	TM-30 Rcs,h1:	-11%
S/P Ratio:	1.68	Duv:	0.0005
M/P Ratio:	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
83.6	82.1	89.5	94.8	82.7	82.0	85.3	86.6	65.9	12.1	74.8	81.7	62.3	83.9	97.2	75.8



Distribution - Goniophotometer

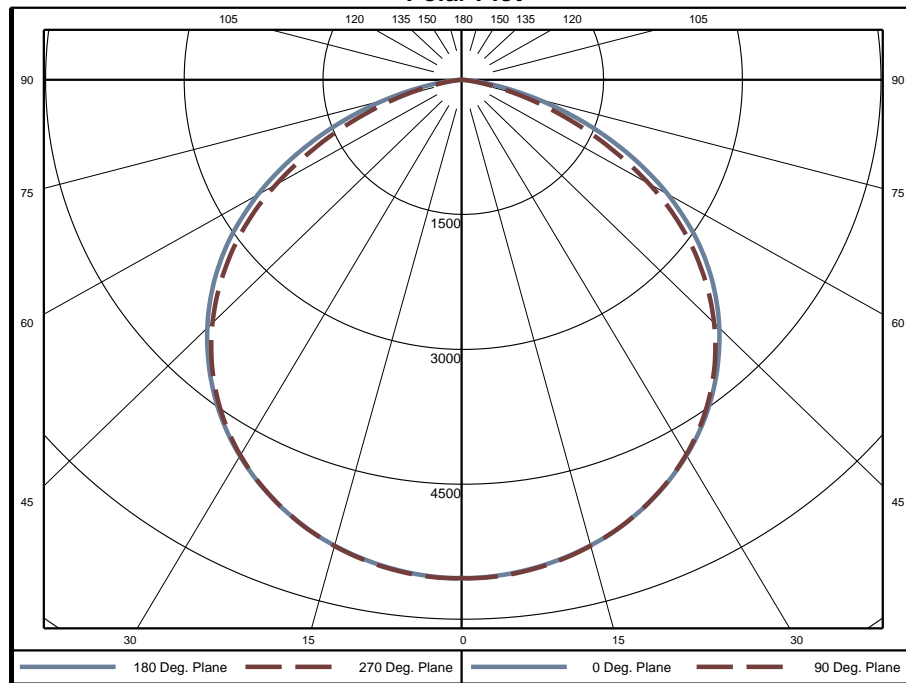
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.1 VAC	0.8365 A	100.1 W	0.997	60 Hz	2.82 %

Summary of Results

Spacing Criteria	Total Lumen Output:	15590 Lumens
0-180: 1.29	Luminaire Efficacy:	155.7 lm/w
90-270: 1.29	Maximum Candela:	5547 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 22.6	Endwise: 21.6	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	132	0.8%	60-65	1052	6.7%	120-125	0	0.0%
5-10	393	2.5%	65-70	791	5.1%	125-130	0	0.0%
10-15	642	4.1%	70-75	512	3.3%	130-135	0	0.0%
15-20	873	5.6%	75-80	261	1.7%	135-140	0	0.0%
20-25	1077	6.9%	80-85	82	0.5%	140-145	0	0.0%
25-30	1250	8.0%	85-90	14	0.1%	145-150	0	0.0%
30-35	1383	8.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	1470	9.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	1505	9.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	1485	9.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	1405	9.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	1261	8.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	7220	46.3%
0-60	12876	82.6%
0-90	15588	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	5542	5542	5542	5542	5542	5542	5542	5542	5542	5542	5542	5542	5542	5542	5542
	5	5522	5523	5519	5524	5531	5524	5519	5523	5522	5523	5519	5524	5531	5524	5519
	10	5459	5464	5459	5463	5468	5463	5459	5464	5459	5464	5459	5463	5468	5463	5459
	15	5360	5367	5361	5362	5365	5362	5361	5367	5360	5367	5361	5362	5365	5362	5361
	20	5223	5231	5224	5222	5224	5222	5224	5231	5223	5231	5224	5222	5224	5222	5224
	25	5043	5054	5046	5042	5041	5042	5046	5054	5043	5054	5046	5042	5041	5042	5046
	30	4824	4836	4831	4820	4816	4820	4831	4836	4824	4836	4831	4820	4816	4820	4831
	35	4564	4574	4567	4548	4542	4548	4567	4574	4564	4574	4567	4548	4542	4548	4567
	40	4256	4269	4253	4224	4214	4224	4253	4269	4256	4269	4253	4224	4214	4224	4253
	45	3907	3920	3889	3849	3831	3849	3889	3920	3907	3920	3889	3849	3831	3849	3889
	50	3516	3521	3469	3416	3391	3416	3469	3521	3516	3521	3469	3416	3391	3416	3469
	55	3069	3071	2990	2923	2897	2923	2990	3071	3069	3071	2990	2923	2897	2923	2990
	60	2559	2560	2455	2375	2330	2375	2455	2560	2559	2560	2455	2375	2330	2375	2455
	65	1999	1984	1877	1752	1715	1752	1877	1984	1999	1984	1877	1752	1715	1752	1877
	70	1416	1381	1240	1152	1126	1152	1240	1381	1416	1381	1240	1152	1126	1152	1240
	75	858	803	685	636	616	636	685	803	858	803	685	636	616	636	685
	80	389	325	271	243	228	243	271	325	389	325	271	243	228	243	271
	85	87	68	51	46	43	46	51	68	87	68	51	46	43	46	51
	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/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	8119	8119
	45	8096	7937
	55	7838	7400
	65	6929	5944
	75	4859	3489
	85	1456	725



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	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	67	63	61
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	42	52	46	41	39
7	66	52	44	37	64	51	43	37	50	42	37	48	42	37	47	41	37	35
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

Beam and Field Information

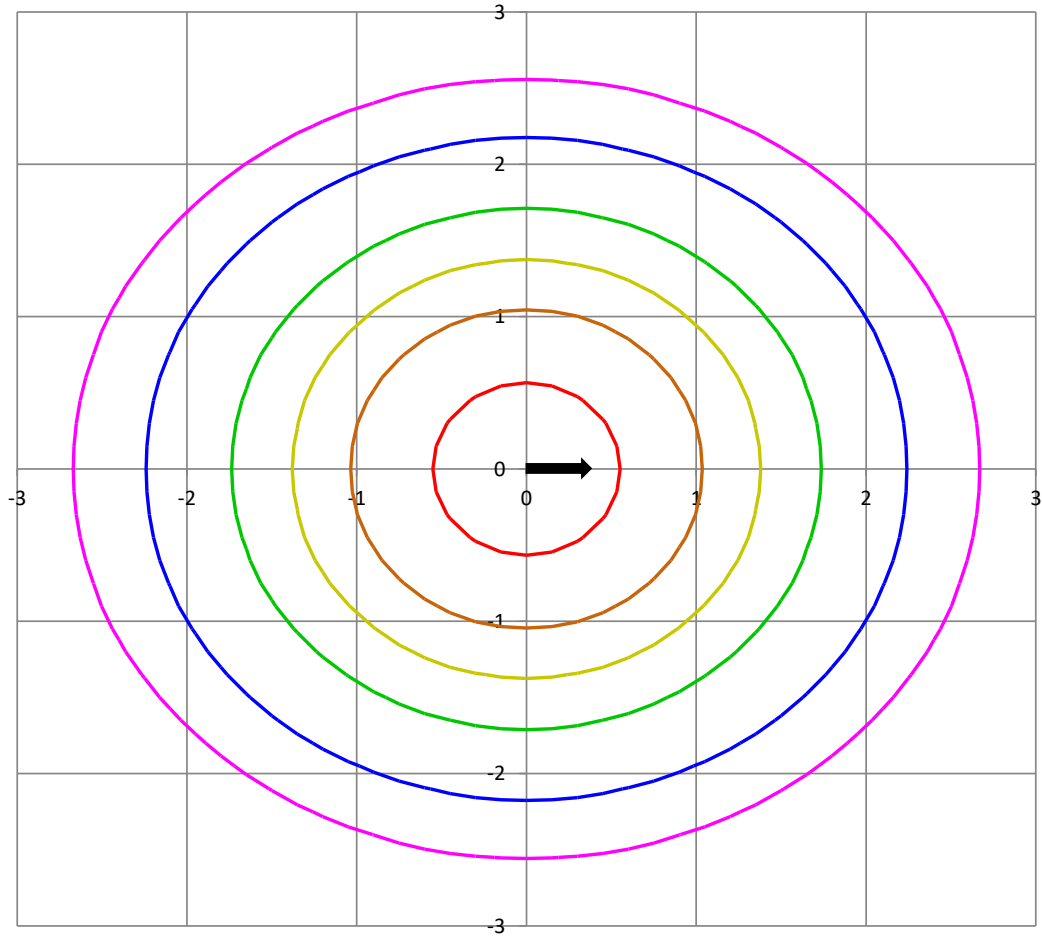
CIE Type:	Direct
Center Beam Intensity:	5542 Candela
Central Cone Intensity:	5536 Candela
Beam Flux:	12187.3 Lumens
Beam Angle (0-180):	115.8 Degrees
Beam Angle (90-270):	112.3 Degrees
Field Angle (0-180):	156.1 Degrees
Field Angle (90-270):	151.4 Degrees

Cone of Light Tabulation

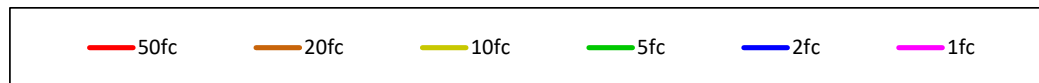
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		346	5.17
6.00		154	7.76
8.00		86.6	10.3
10.0		55.4	12.9
12.0		38.5	15.5
14.0		28.3	18.1
16.0		21.6	20.7

ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height



In-Situ Test

In-Situ Test Conditions

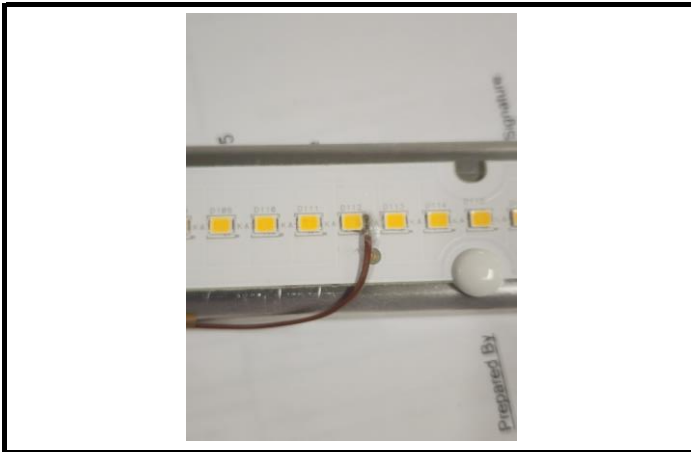
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
23.5 °C	120.1 VAC	N/A	N/A	N/A	60 Hz	N/A

Summary of Results

LED Temperature: 45.9 °C
 Driver Temperature: 47.5 °C
 Measured LED Current: 0.04530 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

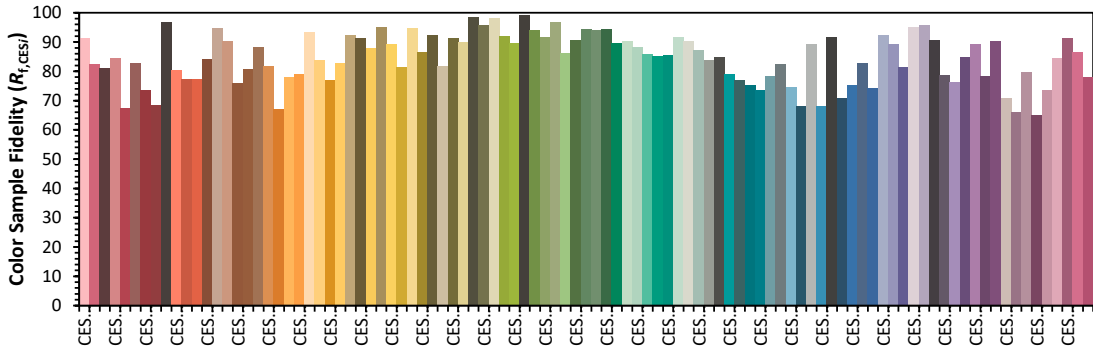
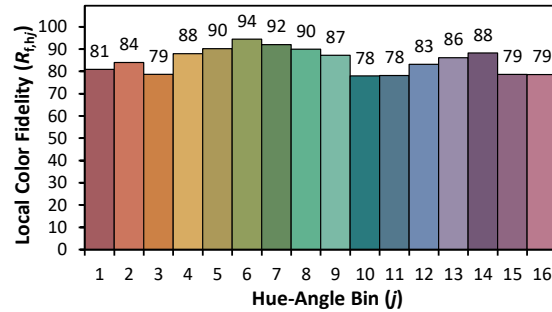
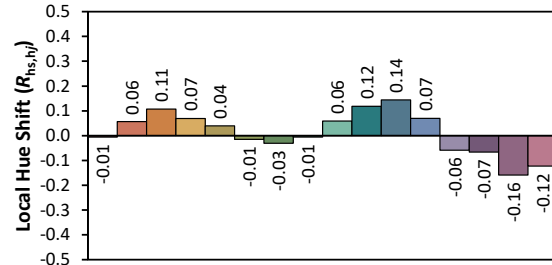
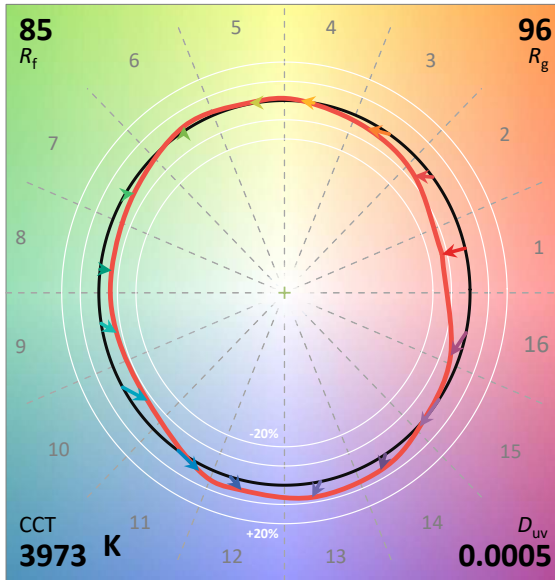
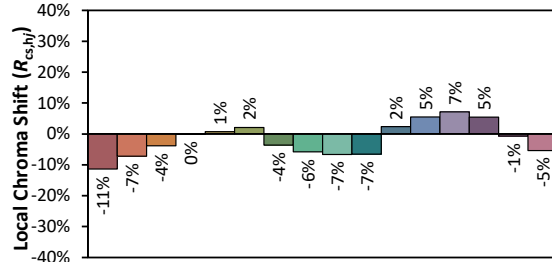
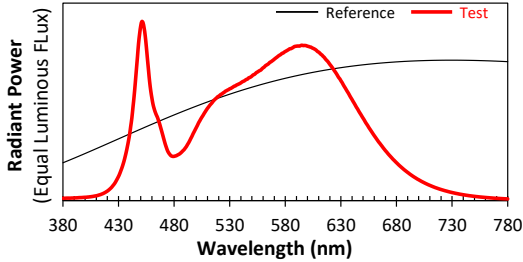
Date: 2023-11-30

Manufacturer:

RIG-A-LITE PARTNERSHIP LTD

Model:

XP160L44LU



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

x 0.3819

y 0.3788

u' 0.2253

v' 0.5027

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.