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Photometric Test Report

Relevant Standards
IES LM-79-2008, 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
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Catalog Number
LE101-118-5-V1-CP1-S-SM-PD

Order Number
14098088
Test Number
14098088.01

Test Date
2021-12-09 - 2021-12-14

Prepared By

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Approved By

Kevin Rodriguez, Project Handler

The results contained in this report pertain only to the tested sample.
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Table of Contents

Summary of Results	Page 3
Integrating Sphere Results	Page 4
Distribution Results	
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
In-Situ Results	Page 9
Full TM-30 Report	Page 10

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: Formed steel housing, frosted plastic lens enclosure
Lamp: 264 white LEDs
Mounting: Recessed
Ballast/Driver: Two Advance XI075C200V054BST1

Luminaire



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 11.50 in.

Summary of Results

Integrating Sphere

Luminous Flux: 13030 Lumens
Efficacy: 119.68 lm/w
CCT: 5112 K
CRI (Ra): 84.7

Distribution

Total Luminaire Output: 12940 Lumens
Luminaire Efficacy: 119.1 lm/w
Maximum Candela: 4781 Candela

Electrical Data at 120 VAC

Test Temperature: 24.6 °C
Voltage: 120.0 VAC
Current: 0.9118 A
Power: 108.9 W
Power Factor: 0.995
Frequency: 60 Hz
Current THD: 9.64 %

In-Situ

LED Temperature: 52.1 °C
Driver Temperature: 58.6 °C
Measured LED Current: 0.1183 A

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



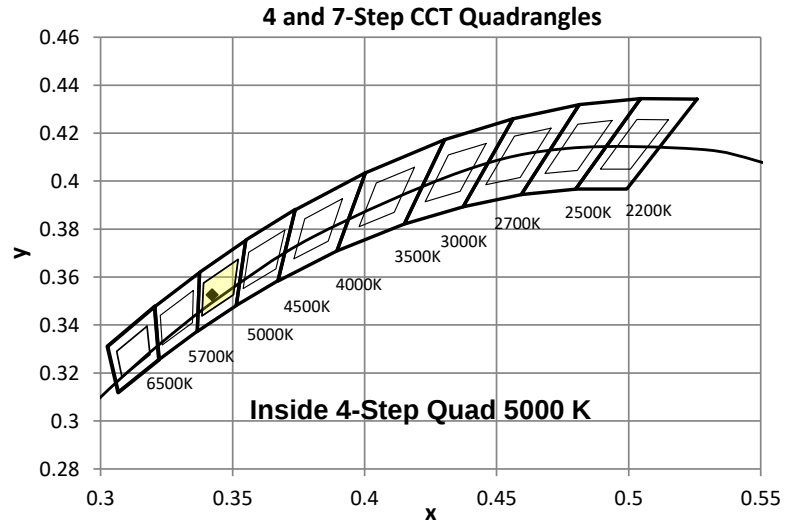
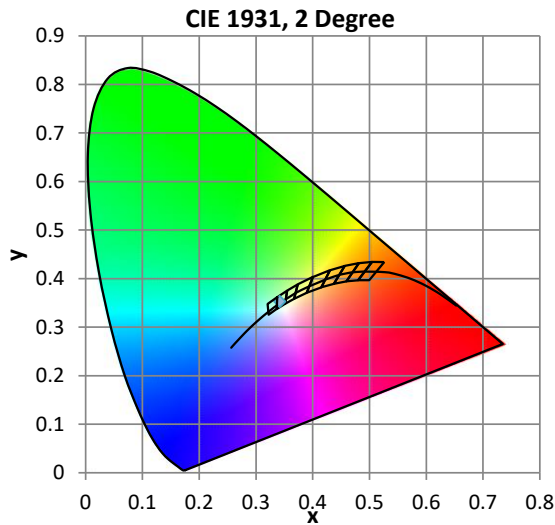
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.9118 A	108.9 W	0.995	60 Hz	9.64 %

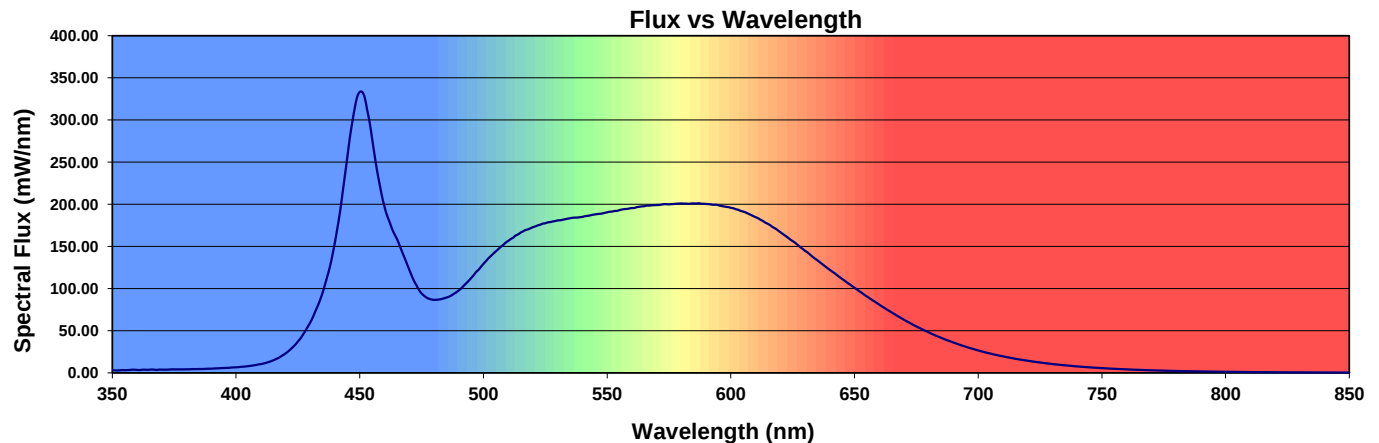
Summary of Results

Total Output:	13030 Lumens	Chromaticity (x):	0.3422
Efficacy:	119.7 lm/w	Chromaticity (y):	0.3526
CCT:	5112 K	Chromaticity (u'):	0.2091
CRI (Ra):	84.7	Chromaticity (v'):	0.4847
CRI (R9):	17.0	TM-30 Rf:	85
Peak Wavelength:	451 nm	TM-30 Rg:	97
Dominant Wavelength:	555 nm	TM-30 Rcs,h1:	-11%
S/P Ratio:	1.99	Duv:	0.0017
M/P Ratio:	0.84	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
84.7	83.6	89.0	92.5	85.2	84.2	84.6	88.0	70.8	17.0	73.6	84.9	65.5	84.9	96.0	78.4





Distribution - Goniophotometer

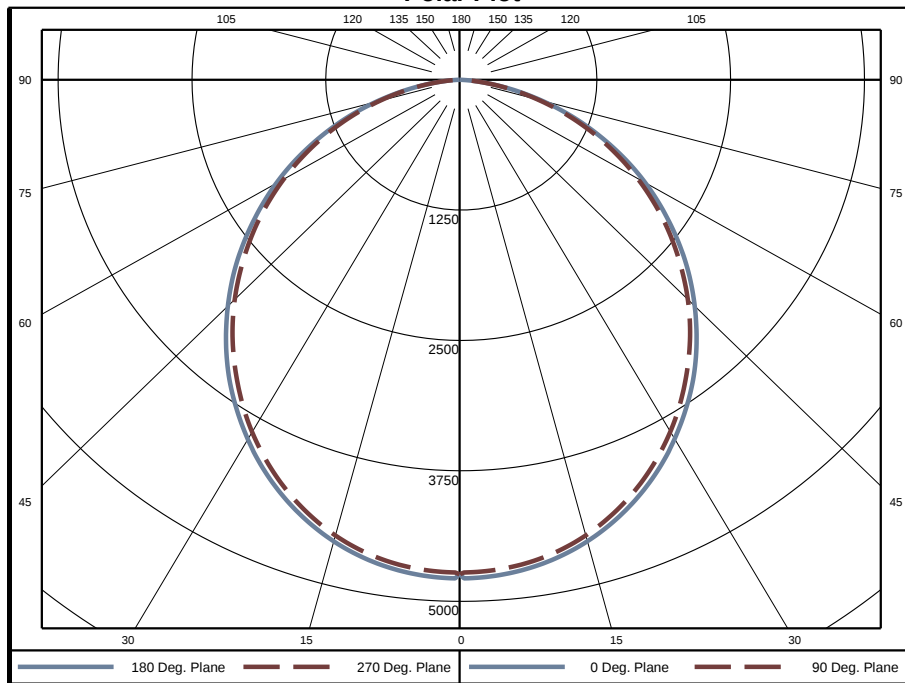
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.9101 A	108.7 W	0.995	59 Hz	9.72 %

Summary of Results

Spacing Criteria	Total Lumen Output:	12940 Lumens
0-180: 1.25	Luminaire Efficacy:	119.1 lm/w
90-270: 1.23	Maximum Candela:	4781 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 24.7	Endwise: 24.5	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	113	0.9%	60-65	856	6.6%	120-125	0	0.0%
5-10	335	2.6%	65-70	696	5.4%	125-130	0	0.0%
10-15	545	4.2%	70-75	516	4.0%	130-135	0	0.0%
15-20	735	5.7%	75-80	327	2.5%	135-140	0	0.0%
20-25	897	6.9%	80-85	152	1.2%	140-145	0	0.0%
25-30	1026	7.9%	85-90	29	0.2%	145-150	0	0.0%
30-35	1118	8.6%	90-95	0	0.0%	150-155	0	0.0%
35-40	1172	9.1%	95-100	0	0.0%	155-160	0	0.0%
40-45	1184	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	1156	8.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	1090	8.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	989	7.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	5941	45.9%
0-60	10360	80.1%
0-90	12936	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	4741	4741	4741	4741	4741	4741	4741	4741	4741	4741	4741	4741	4741	4741	4741
	5	4759	4741	4703	4704	4704	4703	4741	4759	4741	4703	4704	4704	4704	4703	4741
	10	4693	4674	4635	4637	4638	4637	4635	4674	4693	4674	4635	4637	4638	4637	4674
	15	4581	4562	4523	4523	4522	4523	4523	4562	4581	4562	4523	4523	4522	4523	4562
	20	4423	4404	4364	4359	4357	4359	4364	4404	4423	4404	4364	4359	4357	4359	4404
	25	4223	4203	4161	4153	4149	4153	4161	4203	4223	4203	4161	4153	4149	4153	4203
	30	3984	3966	3921	3906	3904	3906	3921	3966	3984	3966	3921	3906	3904	3906	3966
	35	3714	3696	3651	3632	3624	3632	3651	3696	3714	3696	3651	3632	3624	3632	3696
	40	3415	3396	3350	3329	3322	3329	3350	3396	3415	3396	3350	3329	3322	3329	3396
	45	3086	3072	3024	3002	2997	3002	3024	3072	3086	3072	3024	3002	2997	3002	3072
	50	2742	2724	2680	2657	2649	2657	2680	2724	2742	2724	2680	2657	2649	2657	2724
	55	2373	2364	2320	2295	2290	2295	2320	2364	2373	2364	2320	2295	2290	2295	2364
	60	1998	1986	1948	1923	1917	1923	1948	1986	1998	1986	1948	1923	1917	1923	1986
	65	1605	1601	1563	1542	1537	1542	1563	1601	1605	1601	1563	1542	1537	1542	1601
	70	1208	1205	1178	1159	1155	1159	1178	1205	1208	1205	1178	1159	1155	1159	1205
	75	812	812	794	780	777	780	794	812	812	812	794	780	777	780	812
	80	442	445	435	426	427	426	435	445	442	445	435	426	427	426	445
	85	141	143	142	140	139	140	142	143	141	143	142	140	139	140	143
	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	13600	13600
	45	12520	12270
	55	11860	11600
	65	10890	10610
	75	8994	8802
	85	4654	4668



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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	78	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	43	35	30	55	43	35	30	42	35	29	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

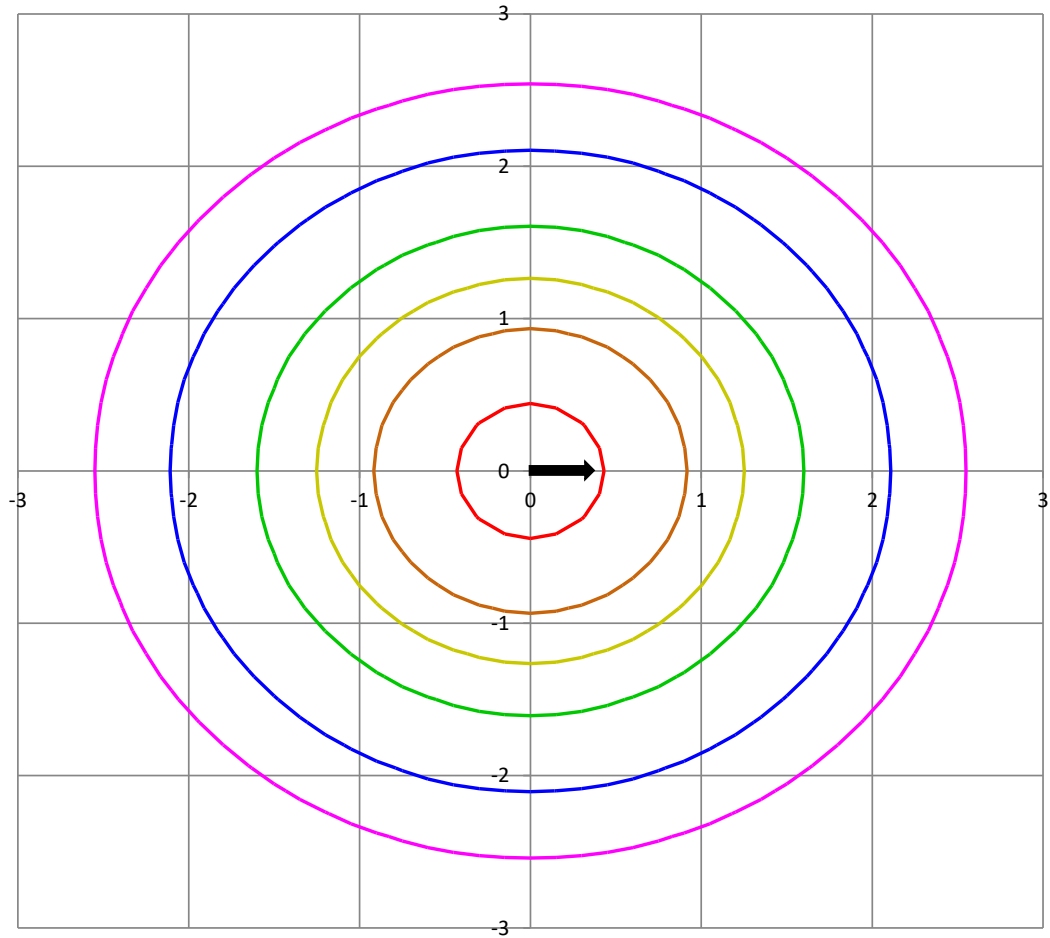
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4741 Candela
Central Cone Intensity:	4734 Candela
Beam Flux:	9255.4 Lumens
Beam Angle (0-180):	110.1 Degrees
Beam Angle (90-270):	107.8 Degrees
Field Angle (0-180):	159.1 Degrees
Field Angle (90-270):	158.6 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		296	4.94
6.00		132	7.41
8.00		74.1	9.87
10.0		47.4	12.3
12.0		32.9	14.8
14.0		24.2	17.3
16.0		18.5	19.7

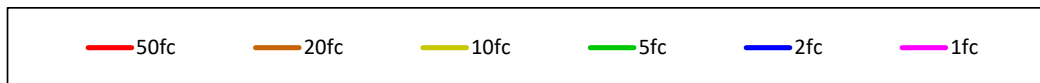


ISOFootcandle Plot

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
23.9 °C	120.0 VAC	N/A	N/A	N/A	60 Hz	N/A

Summary of Results

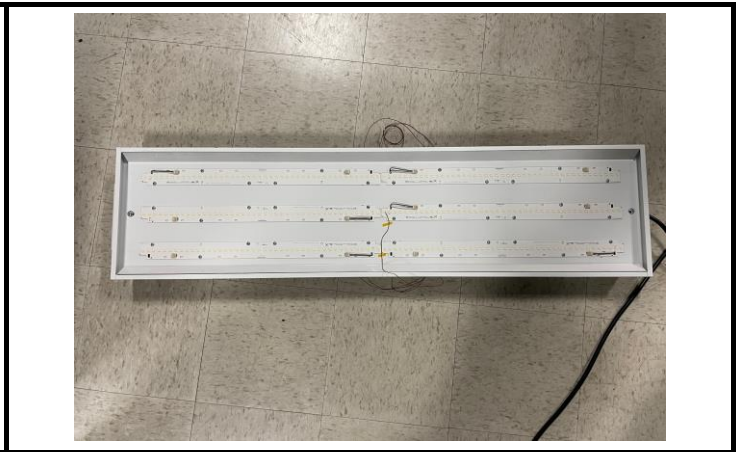
LED Temperature: 52.1 °C
Driver Temperature: 58.6 °C
Measured LED Current: 0.1183 A

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

LED Temperature Location



Thermocouple Reference



Driver Temperature Location



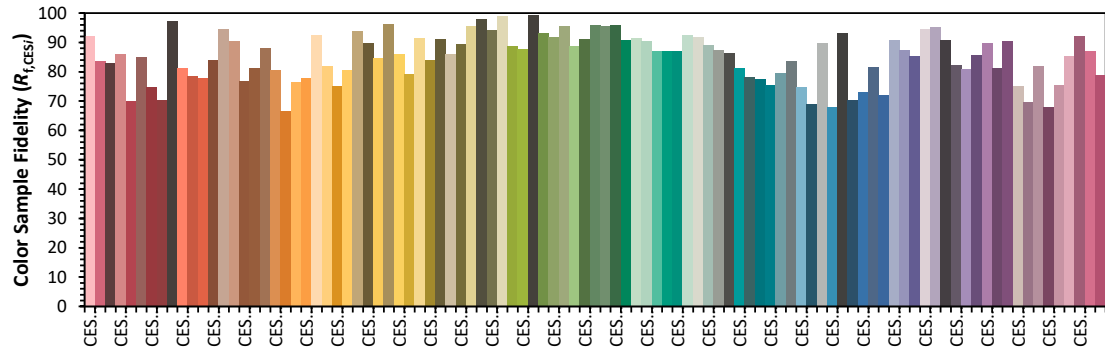
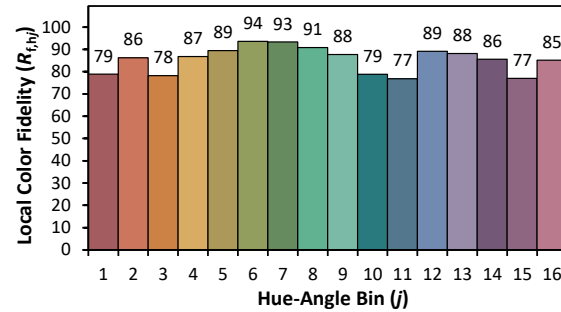
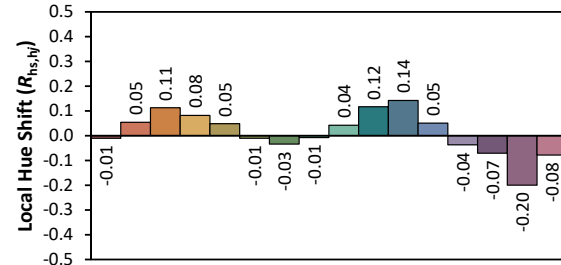
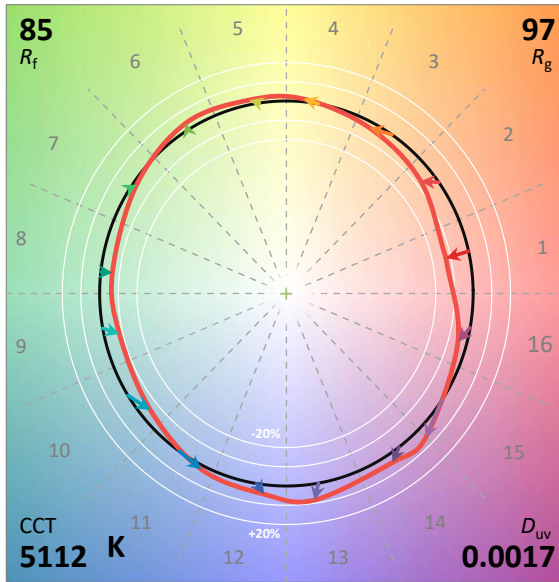
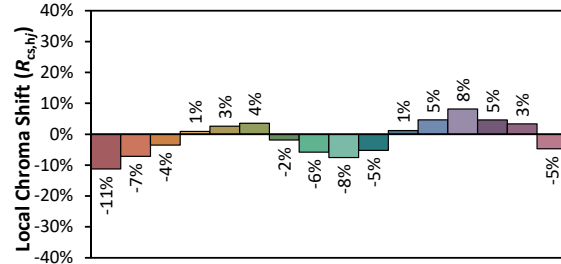
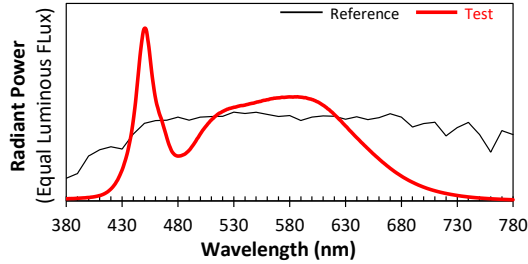
ANSI/IES TM-30-18 Color Rendition Report

Date: 2021-12-09

Manufacturer: LDPI Inc

Model:

LE101-118-5-V1-CP1-S-SM-PD



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

x 0.3422
 y 0.3526
 u' 0.2091
 v' 0.4847

CIE 13.3-1995
(CRI)

R_a 85
 R_g 17

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