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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

LDPI Inc

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Eau Claire, WI 54703
United States

Catalog Number

LE101-59-5-V1-CP1-S-SM-PD

Order Number

14098088

Test Number

14098088.03

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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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: 176 white LEDs
Mounting: Recessed
Ballast/Driver: One Advance XI075C200V054BST1

Luminaire



Luminaire Characteristics

Luminous Length: 47.00 in.
Luminous Width: 8.000 in.

Summary of Results

Integrating Sphere

Luminous Flux: 6449 Lumens
Efficacy: 129.68 lm/w
CCT: 5135 K
CRI (Ra): 84.8

Distribution

Total Luminaire Output: 6434 Lumens
Luminaire Efficacy: 129.5 lm/w
Maximum Candela: 2393 Candela

Electrical Data at 120 VAC

Test Temperature: 25.2 °C
Voltage: 120.2 VAC
Current: 0.4165 A
Power: 49.73 W
Power Factor: 0.994
Frequency: 60 Hz
Current THD: 10.8 %

In-Situ

LED Temperature: 46.2 °C
Driver Temperature: 53.3 °C
Measured LED Current: 0.08300 A

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



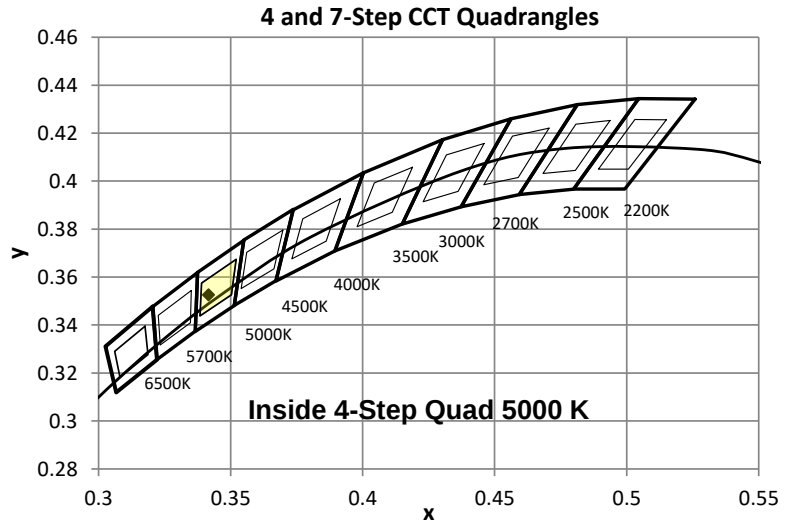
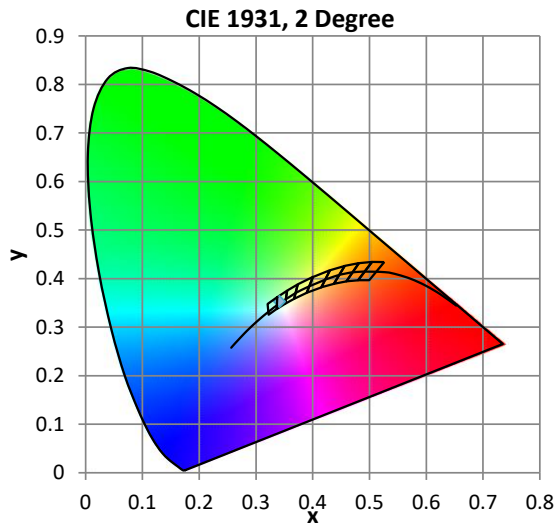
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.2 VAC	0.4165 A	49.73 W	0.994	60 Hz	10.8 %

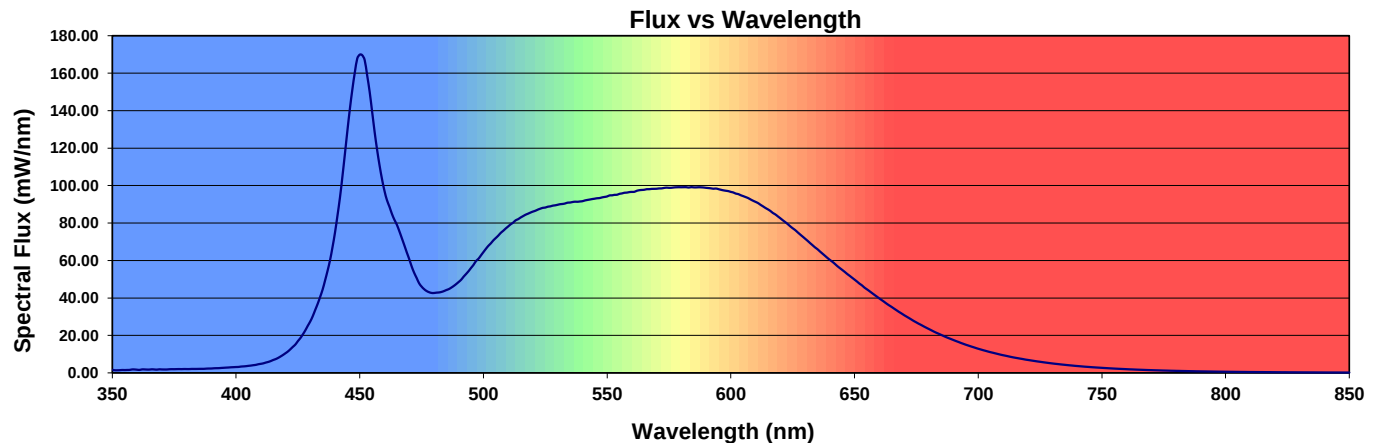
Summary of Results

Total Output:	6449 Lumens	Chromaticity (x):	0.3416
Efficacy:	129.7 lm/w	Chromaticity (y):	0.3526
CCT:	5135 K	Chromaticity (u'):	0.2087
CRI (Ra):	84.8	Chromaticity (v'):	0.4846
CRI (R9):	17.3	TM-30 Rf:	85
Peak Wavelength:	451 nm	TM-30 Rg:	97
Dominant Wavelength:	555 nm	TM-30 Rcs,h1:	-11%
S/P Ratio:	2	Duv:	0.0019
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
84.8	83.6	89.1	92.6	85.3	84.3	84.6	88.1	70.9	17.3	73.7	85.1	64.9	85.0	96.0	78.4





Distribution - Goniophotometer

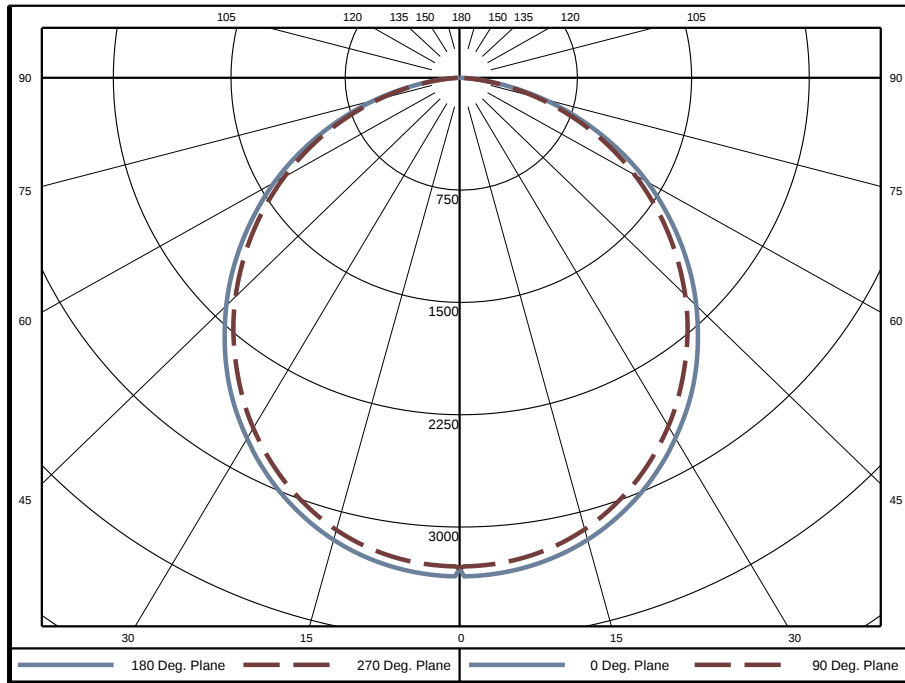
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.1 VAC	0.4165 A	49.70 W	0.994	59 Hz	10.9 %

Summary of Results

Spacing Criteria	Total Lumen Output:	6434 Lumens
0-180: 1.26	Luminaire Efficacy:	129.5 lm/w
90-270: 1.22	Maximum Candela:	2393 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 23.6	Endwise: 23.2	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	56.3	0.9%	60-65	425.5	6.6%	120-125	0	0.0%
5-10	166.9	2.6%	65-70	345.5	5.4%	125-130	0	0.0%
10-15	271.4	4.2%	70-75	255.7	4.0%	130-135	0	0.0%
15-20	365.8	5.7%	75-80	161.8	2.5%	135-140	0	0.0%
20-25	446.5	6.9%	80-85	74.8	1.2%	140-145	0	0.0%
25-30	510.7	7.9%	85-90	14.4	0.2%	145-150	0	0.0%
30-35	556.8	8.7%	90-95	0	0.0%	150-155	0	0.0%
35-40	583.3	9.1%	95-100	0	0.0%	155-160	0	0.0%
40-45	589.5	9.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	575.4	8.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	542.3	8.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	491.9	7.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	2958	46.0%
0-60	5157	80.1%
0-90	6435	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	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359
	5	2382	2359	2339	2337	2340	2337	2339	2359	2382	2359	2339	2337	2340	2337	2339
	10	2349	2326	2304	2304	2307	2304	2304	2326	2349	2326	2304	2304	2307	2304	2326
	15	2295	2270	2248	2247	2249	2247	2248	2270	2295	2270	2248	2247	2249	2247	2248
	20	2216	2191	2170	2165	2165	2165	2170	2191	2216	2191	2170	2165	2165	2165	2170
	25	2118	2092	2068	2062	2061	2062	2068	2092	2118	2092	2068	2062	2061	2062	2068
	30	2001	1975	1949	1940	1937	1940	1949	1975	2001	1975	1949	1940	1937	1940	1949
	35	1868	1841	1816	1803	1798	1803	1816	1841	1868	1841	1816	1803	1798	1803	1816
	40	1717	1693	1667	1652	1646	1652	1667	1693	1717	1693	1667	1652	1646	1652	1667
	45	1552	1531	1505	1489	1482	1489	1505	1531	1552	1531	1505	1489	1482	1489	1505
	50	1380	1358	1332	1316	1308	1316	1332	1358	1380	1358	1332	1316	1308	1316	1332
	55	1195	1178	1153	1137	1127	1137	1153	1178	1195	1178	1153	1137	1127	1137	1153
	60	1008	992	967	951	943	951	967	992	1008	992	967	951	943	951	967
	65	809	798	777	762	754	762	777	798	809	798	777	762	754	762	777
	70	610	601	584	571	565	571	584	601	610	601	584	571	565	571	584
	75	410	405	394	384	379	384	394	405	410	405	394	384	379	384	394
	80	223	221	216	209	205	209	216	221	223	221	216	209	205	209	216
	85	72	71	70	67	66	67	70	71	72	71	70	67	66	67	70
	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	9726	9726
	45	9050	8638
	55	8590	8103
	65	7894	7357
	75	6532	6032
	85	3399	3130



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	79	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	30	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

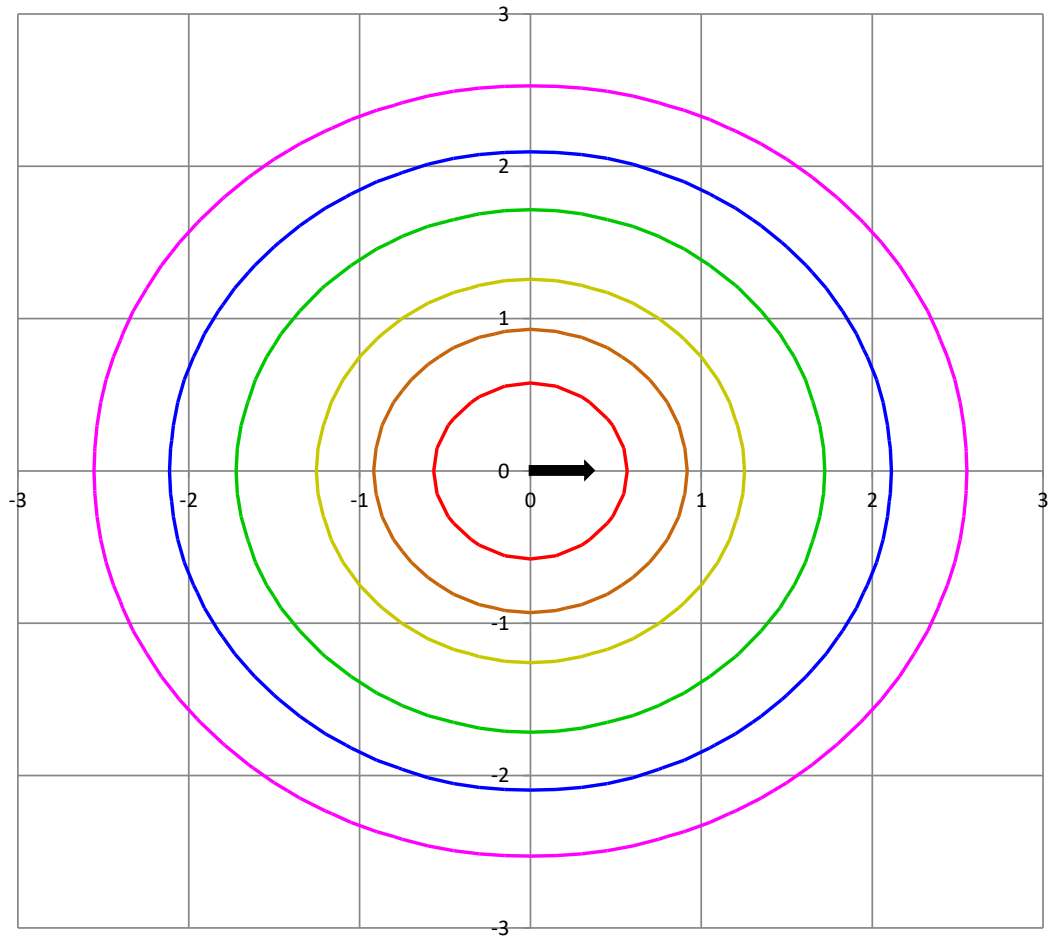
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	2359 Candela
Central Cone Intensity:	2356 Candela
Beam Flux:	4601.4 Lumens
Beam Angle (0-180):	110.8 Degrees
Beam Angle (90-270):	107.1 Degrees
Field Angle (0-180):	159.2 Degrees
Field Angle (90-270):	158.1 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		147	4.94
6.00		65.5	7.41
8.00		36.9	9.88
10.0		23.6	12.3
12.0		16.4	14.8
14.0		12.0	17.3
16.0		9.22	19.8

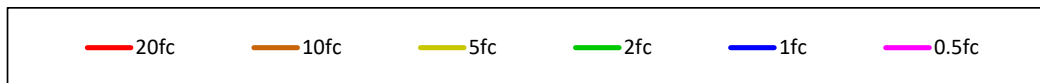


ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height





In-Situ Test

In-Situ Test Conditions

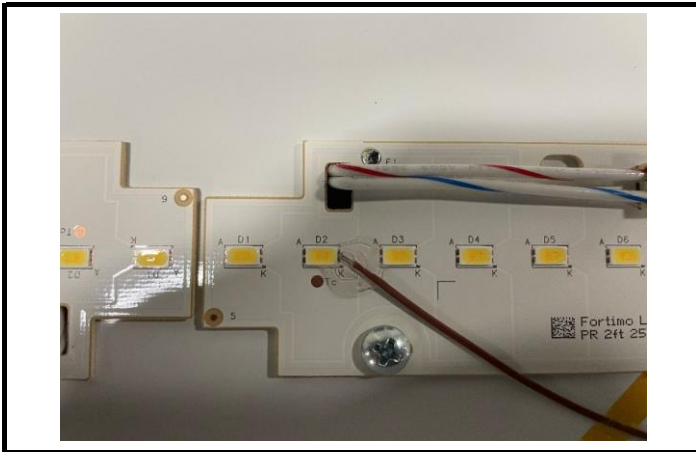
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.0 VAC	N/A	N/A	N/A	60 Hz	N/A

Summary of Results

LED Temperature: 46.2 °C
Driver Temperature: 53.3 °C
Measured LED Current: 0.08300 A

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

LED Temperature Location



Thermocouple Reference



Driver Temperature Location



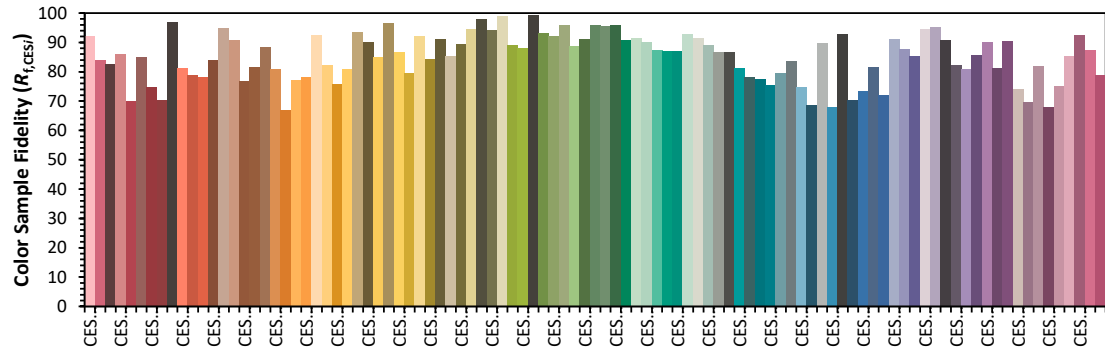
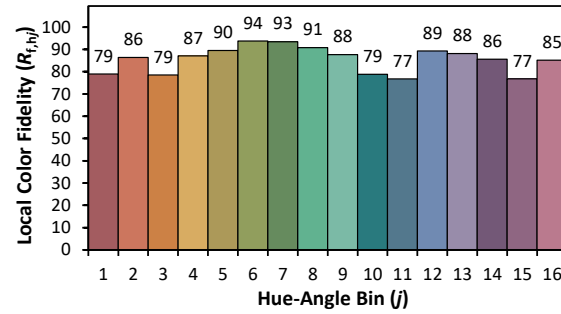
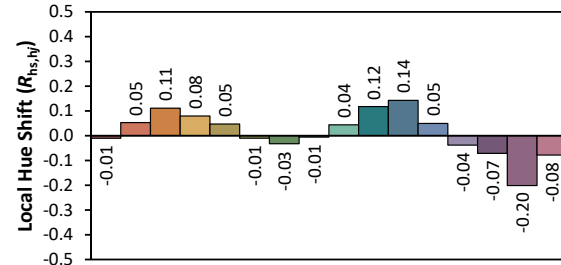
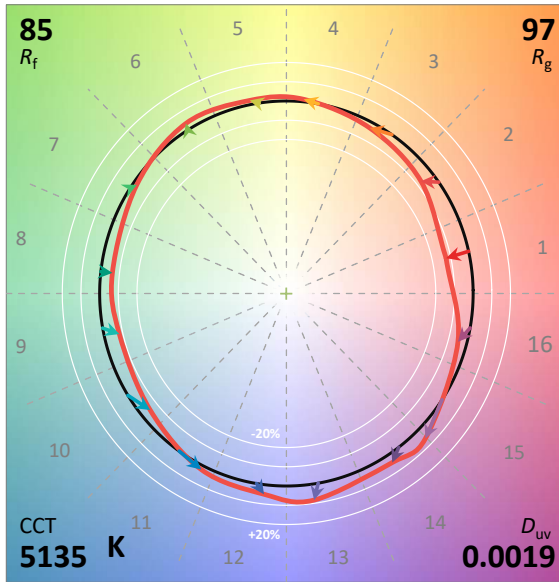
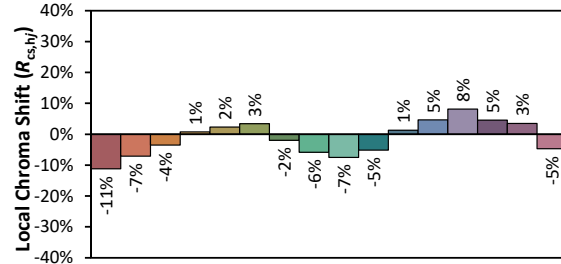
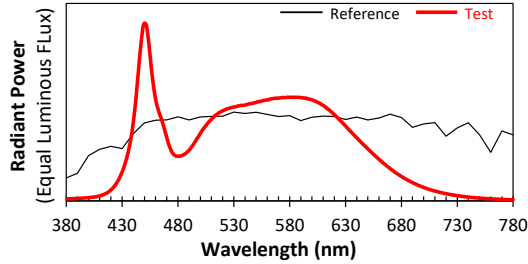
ANSI/IES TM-30-18 Color Rendition Report

Date: 2021-12-09

Manufacturer: LDPI Inc

Model:

LE101-59-5-V1-CP1-S-SM-PD



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

x 0.3416

y 0.3526

u' 0.2087

v' 0.4846

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.