

Cat# 71893
380W LED FlatPanel
Slipfitter Mount

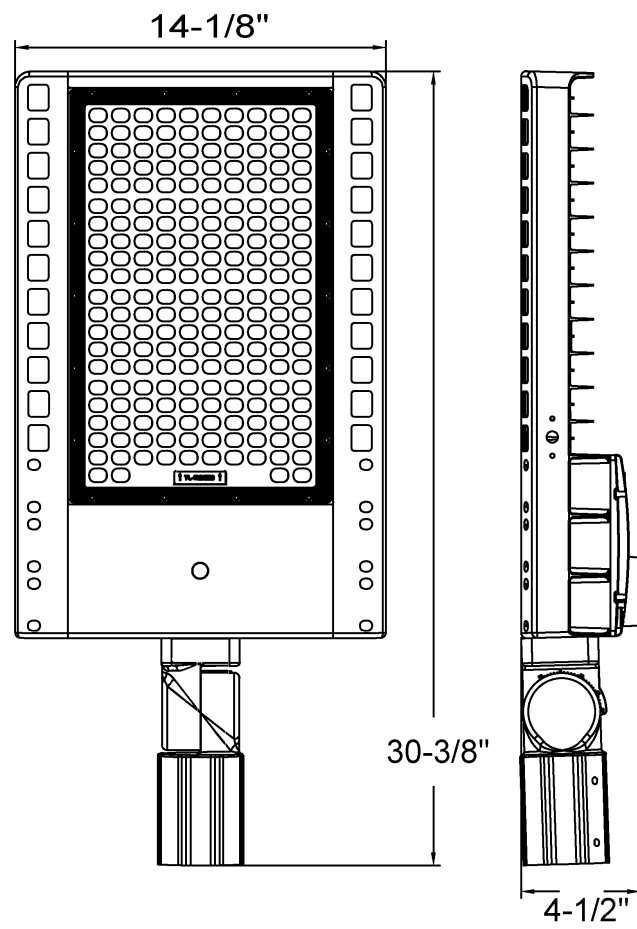
Dimming:
 PWM/VR/0-10V



QPL ID #
 PL21D5Q1B95E

Model: 71893		
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC 50/60HZ
	Input Current	4.8A Max
	Input Power	380W
	Power Factor	PF≥ 0.90
	Luminance	46000LM
	Luminous Efficiency	120 LM/W
	CRI	>80
	Beam Angle	Type II 120x90°
	Main Structure	Aluminium + PC Lens
LED DRIVER	Output Voltage	36-60VDC
	Output Current	8.9A
	Driver Efficiency	88%
LED	LED Manufacturer	Philips
	LED Type	3030 LED
	LED Quantity	150 PCS
	LED Efficacy	150 LM/W
	Color Temperature	5000K
Photocell	-	Not Included
LIFESPAN & ENVIRONMENT	Lifespan	50,000+ Hrs.
	Warranty	5 Years
	IP Rating	IP65 Wet Locations
	Operating Temperature	-40F - +131F
	Storage Temperature, Humidity	-40℃--+80℃ , 10--90% RH
SAFETY&EMC	Safety Norms	UL1598, UL8750, EN60598, EN61347-2-13, EN62031, EN62471
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	≤0.5Ω, OK
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pls refer to attached dimension drawing
	Net Weight	KG
	Gross Weight	KG
	Packing Size	master carton:L*W*Hmm
	Q'ty / Carton	1PCS
	Volume	
	EPA Rating	2.33ft ²

Dimension:



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd. Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71890, 71891, 71892, 71893, 71894, 718956
71896, 71897, 71898

Representative (Tested) Model: 71890

Model Different: All construction and rating are the same, except CCT

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Update: Nov.16, 2016

Review By:

Tommy Liang

Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Laboratory: Standard-Tech Co. Ltd Testing Center**NVLAP CODE: 201011-0**

Report Format Number STD/QR4909-A/2

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<http://www.standard-tech.com>

1.1 Product Information:

Organization Name	Morris Products Inc.	
Brand Name	MORRIS	
Model Number	71890	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	100 -277Vac, 50/60 Hz	
Nominal Power	380W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,5000K,5700K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-2780003000W21	
Sample Number	GZE161105-AN1(4000K),AN2(5700K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Photo


1.2 Test Specifications:

Date of Receipt	: Nov.11,2016
Date of Test	: Nov.12,2016
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.3 Test Methods**1) Photometric and Light Distribution Measurement – Goniophotometer Method:**

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

2.1 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction QD25)*

Test date	2016-11-12	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71890		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	120.0	60	3.335	399.4	0.9981	4.82
AN1	277.0	60	1.423	379.9	0.9640	8.45
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

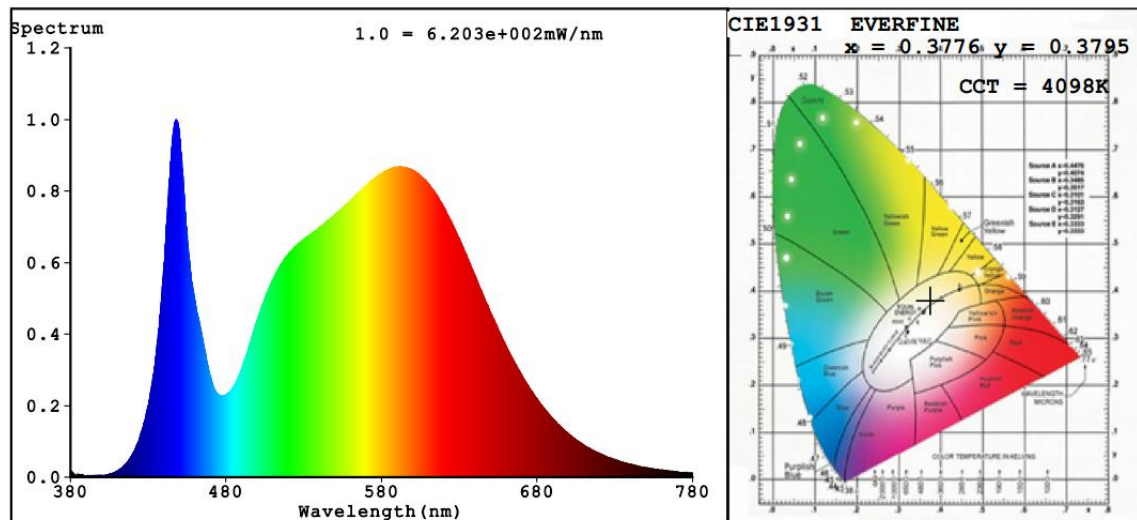
Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	10
Frequency (Hz)	60	R2	87	R10	70
CCT (K)	4098	R3	93	R11	82
Duv	0.0021	R4	83	R12	62
Chromaticity (x, y)	x=0.3776 y=0.3795	R5	81	R13	82
Chromaticity (u', v')	u'=0.2222 v'=0.5024	R6	82	R14	96
Color Rendering Index (CRI)	82.5	R7	87	R15	75
R9	10	R8	66	--	--

Photometric Measurement – Goniophotometer Method :

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	44646	42885	>=1000 (-10%)	
Luminous Efficacy (lm/W)	111.78	112.88	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	100	--	>=85(-3)	
Beam Angle (°)	100.2	--	--	
Center Beam Candle Power (cd)	16685	--	--	

Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	11,912.8	26.7%
0-40	19,859.2	44.5%
0-60	36,058.7	80.8%
60-90	8,576.2	19.2%
70-100	3,654.3	8.2%
90-120	0	0%
0-90	44,634.9	100%
90-180	0	0%
0-180	44,634.9	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	1,544.9	3.5%	90-100	0	0%
10-20	4,153.3	9.3%	100-110	0	0%
20-30	6,214.6	13.9%	110-120	0	0%
30-40	7,946.4	17.8%	120-130	0	0%
40-50	8,566.3	19.2%	130-140	0	0%
50-60	7,633.2	17.1%	140-150	0	0%
60-70	4,921.9	11.0%	150-160	0	0%
70-80	2,865.8	6.4%	160-170	0	0%
80-90	788.5	1.8%	170-180	0	0%

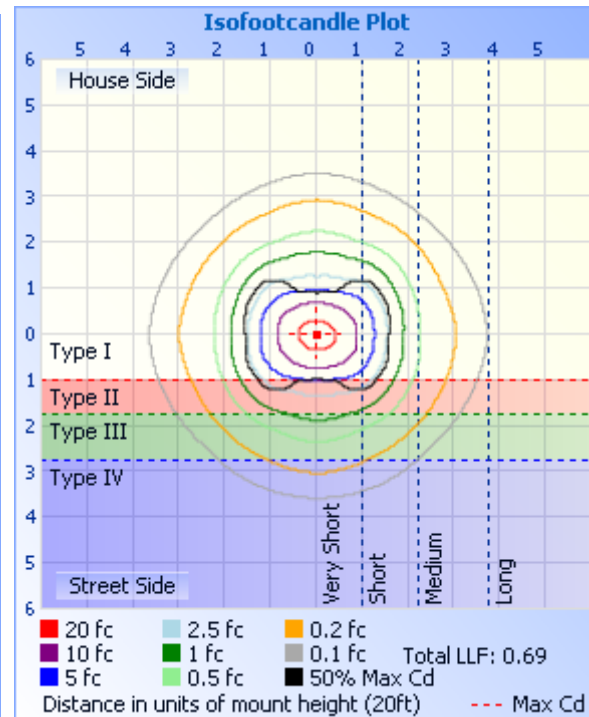
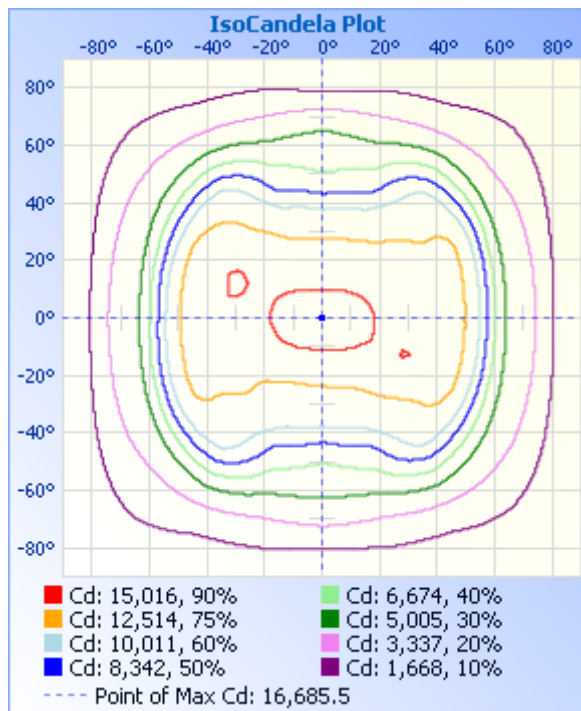
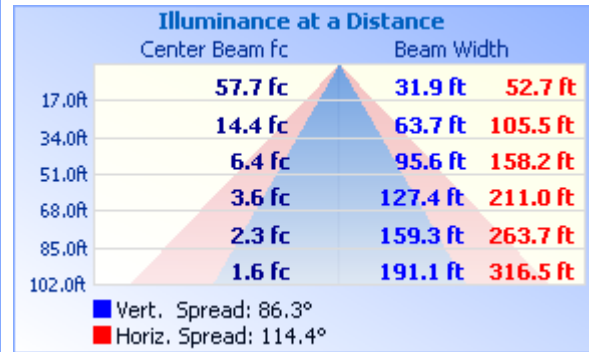
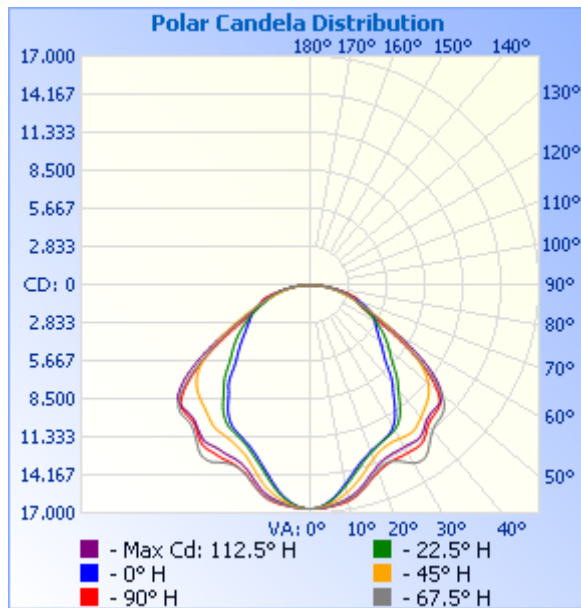


Table--1

UNIT: $\times 10\text{cd}$

γ (DEG) \ C (DEG)	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	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	1668	
5	1658	1652	1640	1627	1620	1626	1641	1655	1660	1656	1641	1631	1628	1632	1645	1657	
10	1637	1615	1562	1521	1505	1521	1571	1625	1635	1614	1570	1533	1517	1534	1581	1630	
15	1562	1534	1460	1408	1390	1409	1475	1556	1564	1537	1465	1405	1386	1407	1480	1562	
20	1472	1436	1363	1330	1320	1329	1377	1469	1483	1444	1351	1302	1291	1312	1370	1477	
25	1447	1409	1313	1281	1277	1283	1327	1448	1446	1401	1284	1237	1236	1253	1315	1466	
30	1443	1400	1286	1243	1228	1251	1324	1533	1446	1396	1241	1192	1183	1215	1289	1513	
35	1423	1397	1265	1150	1097	1164	1332	1522	1443	1401	1225	1107	1062	1128	1268	1461	
40	1344	1332	1211	1001	949	1019	1282	1416	1364	1338	1185	988	938	998	1212	1371	
45	1331	1316	1157	861	787	888	1230	1381	1331	1309	1150	857	772	863	1169	1357	
50	1224	1280	1093	743	688	770	1146	1279	1238	1275	1112	750	668	750	1101	1252	
55	956	1060	961	649	610	678	983	1011	984	1073	994	654	581	652	957	984	
60	649	746	741	555	559	575	747	720	677	771	781	549	518	546	738	699	
65	445	484	527	459	509	468	534	507	454	503	555	443	462	440	529	490	
70	389	353	363	363	415	368	371	382	390	362	375	344	379	341	362	370	
75	314	282	245	268	273	274	251	289	331	295	248	255	269	253	238	280	
80	173	180	149	171	152	176	153	179	198	201	153	174	159	170	144	169	
85	54.0	67.7	65.1	74.0	51.5	78.9	67.7	72.3	67.7	84.9	75.2	88.7	63.1	84.0	67.5	64.2	
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Laboratory: Standard-Tech Co. Ltd Testing Center

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BUG Rating: B5-U0-G3**IESNA Luminaire Flux Distribution Table:**

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	5978	13.4
FM - Front-Medium(30-60)	12163	27.2
FH - Front-High(60-80)	3918.4	8.8
FVH - Front-Very High(80-90)	382.04	0.9
Total Forward Light	22441	50.3

BL - Back-Low(0-30)	5935.9	13.3
BM - Back-Medium(30-60)	11993	26.9
BH - Back-High(60-80)	3869.6	8.7
BVH - Back-Very High(80-90)	406.5	0.9
Total Back Light	22205	49.7

UL - Uplight-Low(90-100)	0	0.0
UH - Uplight-High(100-180)	0	0.0
Total Up Light	0	0.0

BUG(Back,Up,Glare) Rating	B5-U0-G3
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	22205	0	22205
Street Side	22441	0	22441

2.2 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction QD25)*

Test date	2016-11-12	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71890		

Electrical Measurement :

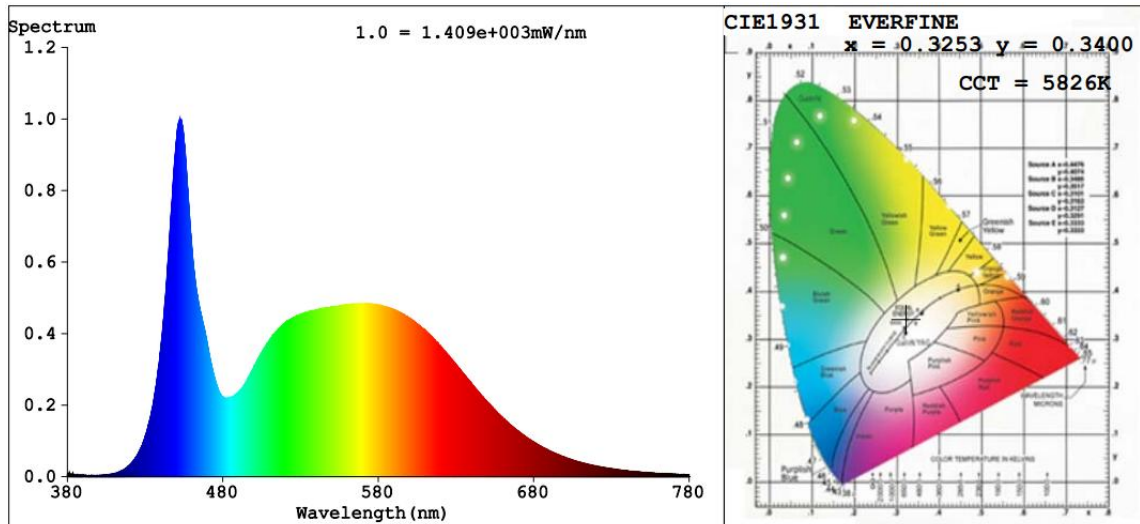
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	120.0	60	3.340	400.2	0.9985	4.76
AN2	277.0	60	1.425	380.7	0.9644	8.39
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	12
Frequency (Hz)	60	R2	88	R10	71
CCT (K)	5826	R3	91	R11	82
Duv	0.0027	R4	83	R12	58
Chromaticity (x, y)	x=0.3253 y=0.3400	R5	82	R13	84
Chromaticity (u', v')	u'=0.2024 v'=0.4759	R6	83	R14	95
Color Rendering Index (CRI)	83.5	R7	88	R15	78
R9	12	R8	70	--	--

Photometric Measurement – Sphere-Spectroradiometer Method :

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	48408	46499	>=1000 (-10%)	
Luminous Efficacy (lm/W)	120.96	122.14	Standard: >= 100(-3%)	Premium: >= 120(-3%)

Spectral Power Distribution & Chromaticity Diagram**Laboratory: Standard-Tech Co. Ltd Testing Center****NVLAP CODE: 201011-0**

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3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2016-07-01	2017-06-30
ST-R-331	Spectral analysis system HAAS-2000	2016-07-01	2017-06-30
D204	Standard Lamp	2016-07-01	2017-06-30
PF2010	Power Meter for Integrating Sphere	2016-07-01	2017-06-30
EE-09	Goniophotometer system	2016-07-01	2017-06-30
D908S	Standard Lamp	2016-07-01	2017-06-30
PF210	Power Meter for Goniophotometer	2016-07-01	2017-06-30
ST-R-181A	Temperature Tester	2016-07-01	2017-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

******* END OF REPORT *******

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