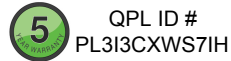


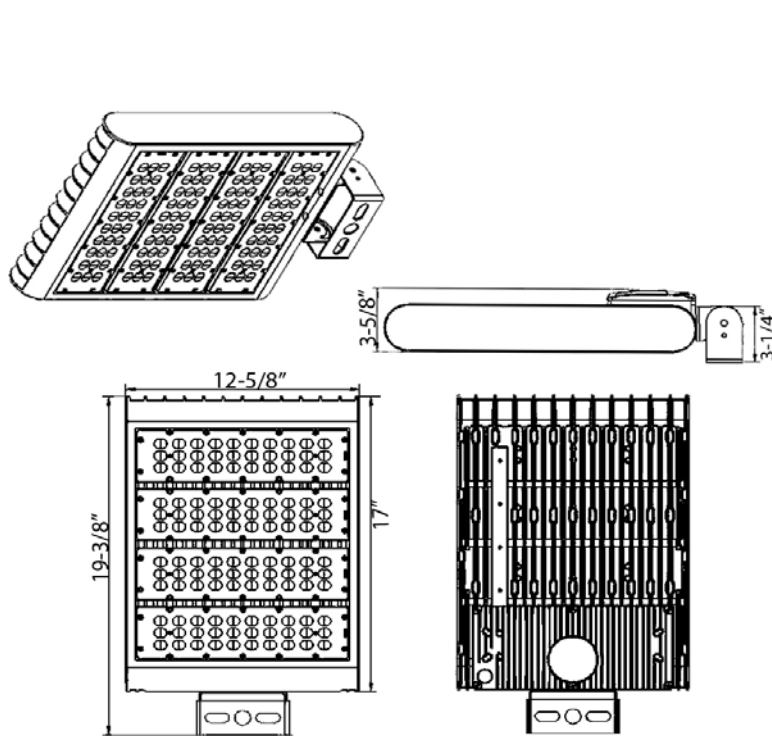


Cat# 71838
300 Watts
Trunion Mount



Model : 71838	
OVERALL LAMP PARAMETERS	Input Voltage
	Input Current
	Input Power
	Power Factor
	Luminance
	Luminous Efficiency
	CRI
	R9
	Beam Angle
	Main Structure
LED DRIVER	Output Voltage
	Output Current
	THD
	Driver Efficiency
LED	LED Manufacturer
	LED Type
	LED Quantity
	LED Efficacy
LIFESPAN & ENVIRONMENT	Color Temperature
	Photocell
	Lifespan
	Warranty
	IP Rating
SAFETY&EMC	Operating Temperature
	Storage Temperature.Humidity
	Safety Norms
	Withstand Voltage
OTHERS	Grounding Resistance
	Electromagnetic Compatibility
	Dimension
	Net Weight
	Gross Weight
	Packing Size
	Q'ty / Carton
	Volume
	EPA Rating

Dimension:



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd. Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71545, 71837, 71838

Representative (Tested) Model: 71545

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

Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

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

1.1 Product Information:

Organization Name	Morris Products Inc.	
Brand Name	MORRIS	
Model Number	71545	
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	300W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,5000K,5700K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-2780003000W21	
Sample Number	GZE161105-AL1(4000K),AL2(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	: Oct.31,2016
Date of Test	: Nov.03,2016
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	2016-11-03	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71545		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	120.0	60	2.572	307.5	0.9963	4.32
AL1	277.0	60	1.153	297.7	0.9321	7.85
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

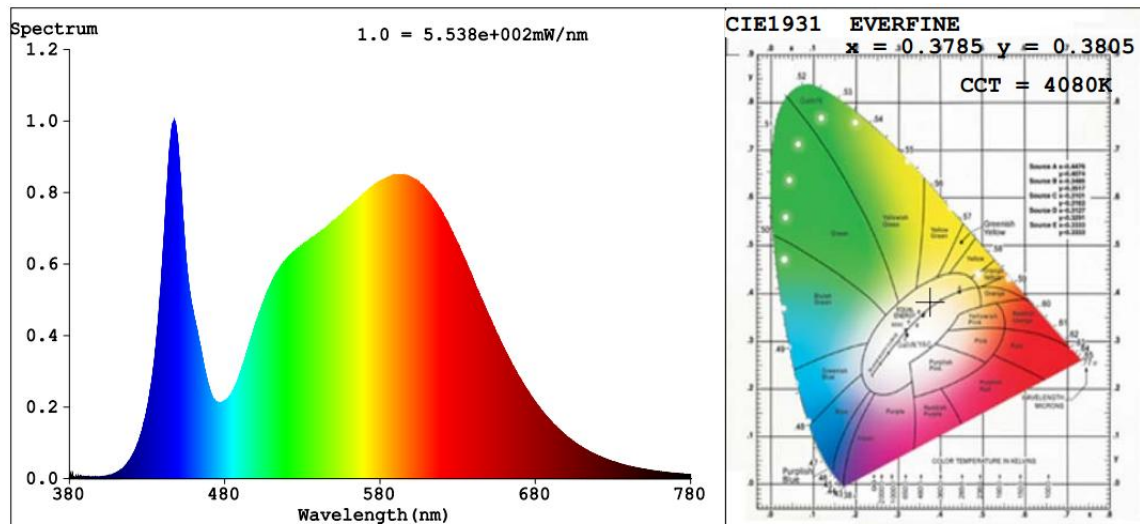
Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	10
Frequency (Hz)	60	R2	87	R10	69
CCT (K)	4080	R3	92	R11	82
Duv	0.0023	R4	83	R12	62
Chromaticity (x, y)	x=0.3785 y=0.3805	R5	81	R13	82
Chromaticity (u', v')	u'=0.2224 v'=0.5029	R6	82	R14	96
Color Rendering Index (CRI)	82.4	R7	87	R15	75
R9	10	R8	67	--	--

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)	37597	36782	>=1000 (-10%)	
Luminous Efficacy (lm/W)	122.27	123.55	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	99.7	--	>=85(-3)	
Beam Angle (°)	107.2	--	--	
Center Beam Candle Power (cd)	12775	--	--	

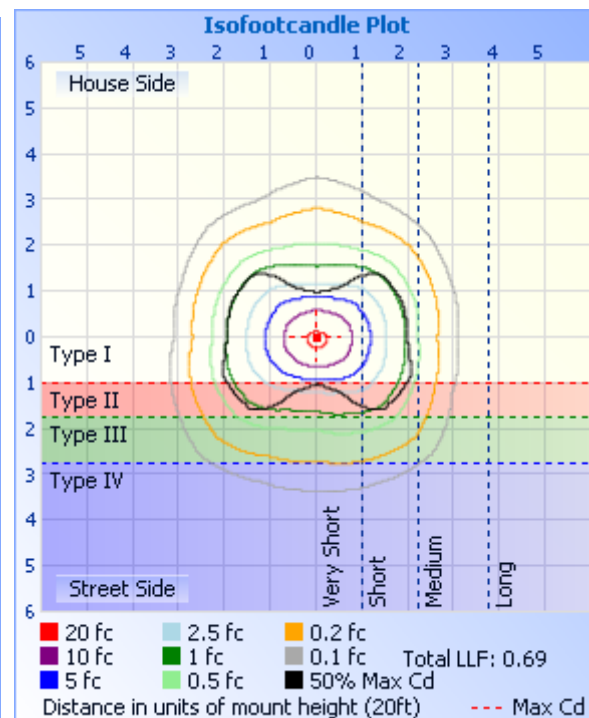
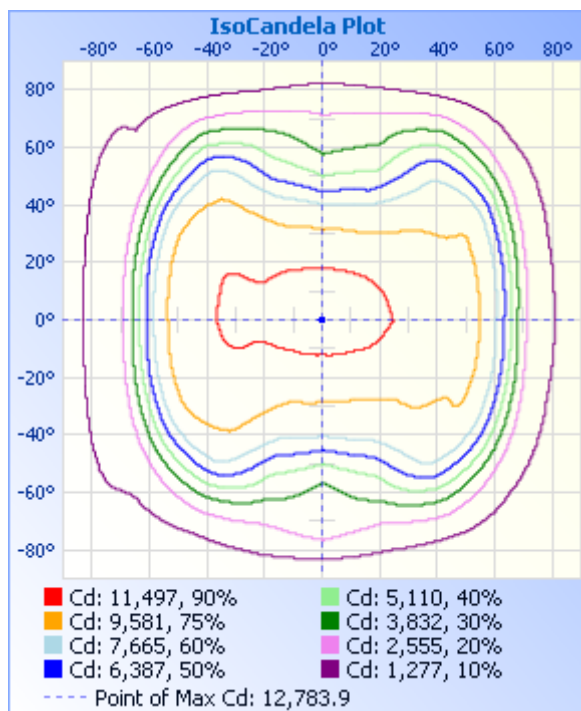
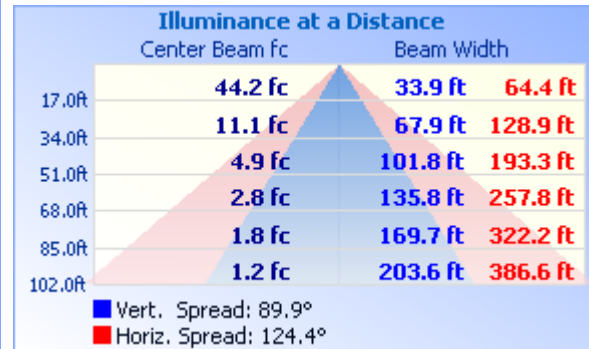
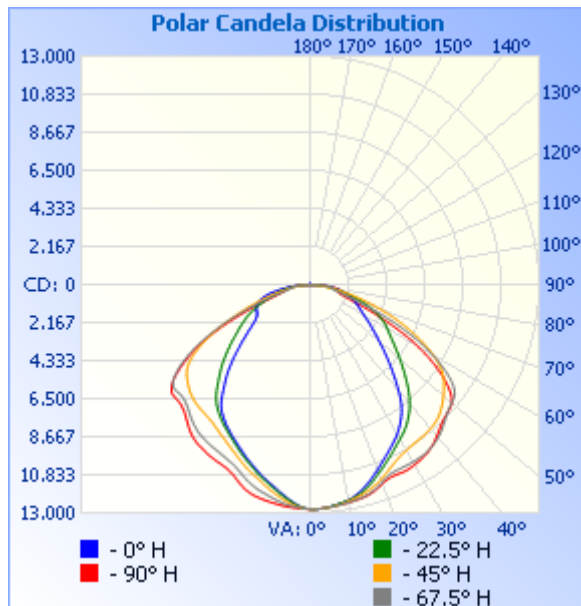
Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	9,569.7	25.5%
0-40	15,922.1	42.4%
0-60	29,567.1	78.7%
60-90	7,919.8	21.1%
70-100	3,108.2	8.3%
90-120	32.3	0.1%
0-90	37,486.8	99.7%
90-180	102.5	0.3%
0-180	37,589.3	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	1,193.3	3.2%	90-100	7.7	0%
10-20	3,348.8	8.9%	100-110	10.5	0%
20-30	5,027.7	13.4%	110-120	14.1	0%
30-40	6,352.4	16.9%	120-130	17.3	0%
40-50	6,928.9	18.4%	130-140	17.7	0%
50-60	6,716.1	17.9%	140-150	14.7	0%
60-70	4,819.3	12.8%	150-160	11.1	0%
70-80	2,325.9	6.2%	160-170	6.7	0%
80-90	774.6	2.1%	170-180	2.6	0%



C (DEG) γ (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	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277	1277
5	1272	1273	1272	1271	1270	1270	1272	1272	1270	1260	1248	1239	1236	1240	1252	1263
10	1259	1258	1251	1249	1246	1247	1251	1259	1259	1227	1196	1177	1170	1179	1201	1233
15	1241	1228	1214	1201	1193	1206	1223	1241	1244	1188	1144	1121	1112	1121	1145	1197
20	1193	1186	1162	1132	1120	1141	1179	1196	1204	1151	1098	1062	1051	1061	1094	1144
25	1145	1130	1100	1063	1050	1076	1123	1165	1188	1134	1059	1006	992	1004	1041	1102
30	1130	1104	1042	1001	986	1018	1091	1166	1185	1137	1035	957	938	951	997	1081
35	1109	1088	1000	929	904	960	1077	1160	1164	1132	1024	907	877	900	963	1063
40	1069	1068	966	829	778	880	1067	1133	1121	1103	1015	829	762	831	945	1032
45	1015	1029	924	703	639	774	1040	1085	1076	1055	989	725	636	728	932	986
50	1001	987	861	592	521	669	988	1049	1050	1023	940	620	503	629	902	966
55	949	969	801	497	429	577	924	990	927	954	863	521	401	529	855	950
60	776	866	742	423	358	508	814	809	714	763	715	443	348	447	743	798
65	529	667	629	366	307	440	640	561	441	522	519	365	336	371	559	572
70	275	416	464	305	268	346	451	306	232	292	339	284	316	282	373	325
75	162	206	292	231	230	240	273	173	165	164	200	216	273	204	223	162
80	131	117	151	151	166	145	147	128	168	115	109	152	184	138	118	106
85	81.5	78.0	54.5	76.9	97.1	68.9	60.1	115	98.1	89.2	43.8	78.2	87.3	68.6	45.0	84.9
90	0.88	0.88	0.92	1.01	1.27	1.09	1.13	1.12	0.94	0.89	0.73	0.81	0.91	0.82	0.75	0.84
95	0.57	0.58	0.64	0.68	0.78	0.66	0.72	0.63	0.56	0.72	0.69	0.65	0.64	0.70	0.68	0.59
100	0.69	0.75	0.75	0.67	0.75	0.67	0.83	0.77	0.67	0.80	0.85	0.68	0.66	0.77	0.91	0.78
105	1.04	1.12	1.06	0.79	0.80	0.80	1.13	1.18	0.99	1.11	1.04	0.74	0.71	0.88	1.21	1.16
110	1.48	1.52	1.35	0.99	0.96	1.05	1.45	1.55	1.36	1.35	1.17	0.89	0.87	1.02	1.42	1.52
115	1.78	1.80	1.59	1.08	1.18	1.18	1.63	1.84	1.58	1.61	1.32	0.90	1.03	1.12	1.61	1.80
120	2.05	2.00	1.77	1.29	1.43	1.25	1.82	2.03	1.77	1.73	1.49	1.13	1.16	1.23	1.72	1.93
125	2.35	2.27	1.81	1.70	3.94	1.72	1.86	2.24	1.88	1.81	1.43	1.50	1.84	1.65	1.76	2.07
130	2.50	2.33	1.80	1.94	4.36	1.92	1.86	2.27	2.06	1.72	1.54	1.72	2.95	1.96	2.01	2.14
135	2.48	2.24	1.76	2.15	4.62	2.10	1.86	2.11	2.07	1.73	1.55	1.92	3.49	2.15	2.07	2.20
140	2.49	2.20	1.72	2.31	5.46	2.19	1.73	2.07	2.11	1.84	1.47	2.10	3.82	2.13	1.87	2.30
145	2.43	1.92	1.79	2.45	4.98	2.37	1.48	1.92	2.15	1.87	1.51	2.20	2.76	2.33	2.09	2.33
150	2.38	1.87	2.11	2.53	4.77	2.58	1.75	1.99	2.15	1.99	1.79	2.29	3.57	2.51	2.67	2.30
155	2.17	1.87	2.26	2.63	3.87	2.55	1.99	2.10	2.13	2.11	1.90	2.30	2.55	2.58	2.78	2.19
160	2.15	1.86	2.30	2.68	3.60	2.59	2.06	2.16	2.03	2.18	1.87	2.29	2.52	2.65	2.62	2.35
165	2.25	1.90	2.33	2.40	2.66	2.49	2.14	2.11	2.23	2.10	1.85	2.25	2.35	2.50	2.59	2.60
170	2.40	2.13	2.68	2.91	2.83	2.94	2.60	2.24	2.54	2.51	2.10	2.69	3.01	3.04	3.07	2.99
175	2.57	2.32	2.77	2.92	3.20	2.94	2.84	2.43	2.70	2.72	2.37	2.75	3.08	3.33	3.05	3.03
180	2.44	2.26	2.55	2.76	3.10	2.75	2.83	2.36	2.49	2.47	2.23	2.56	2.78	3.12	2.74	2.82

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

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BUG Rating: B5-U3-G3**IESNA Luminaire Flux Distribution Table:**

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	4880.5	13.0
FM - Front-Medium(30-60)	10103	26.9
FH - Front-High(60-80)	3768.1	10.0
FVH - Front-Very High(80-90)	403.61	1.1
Total Forward Light	19209	51.1

BL - Back-Low(0-30)	4689.9	12.5
BM - Back-Medium(30-60)	9900.7	26.3
BH - Back-High(60-80)	3377.2	9.0
BVH - Back-Very High(80-90)	370.82	1.0
Total Back Light	18387	48.9

UL - Uplight-Low(90-100)	7.7042	0.0
UH - Uplight-High(100-180)	94.836	0.3
Total Up Light	102.54	0.3

BUG(Back,Up,Glare) Rating	B5-U3-G3
---------------------------	----------

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	18339	48.751	18387
Street Side	19155	53.79	19209

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

Test date	2016-11-03	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71545		

Electrical Measurement :

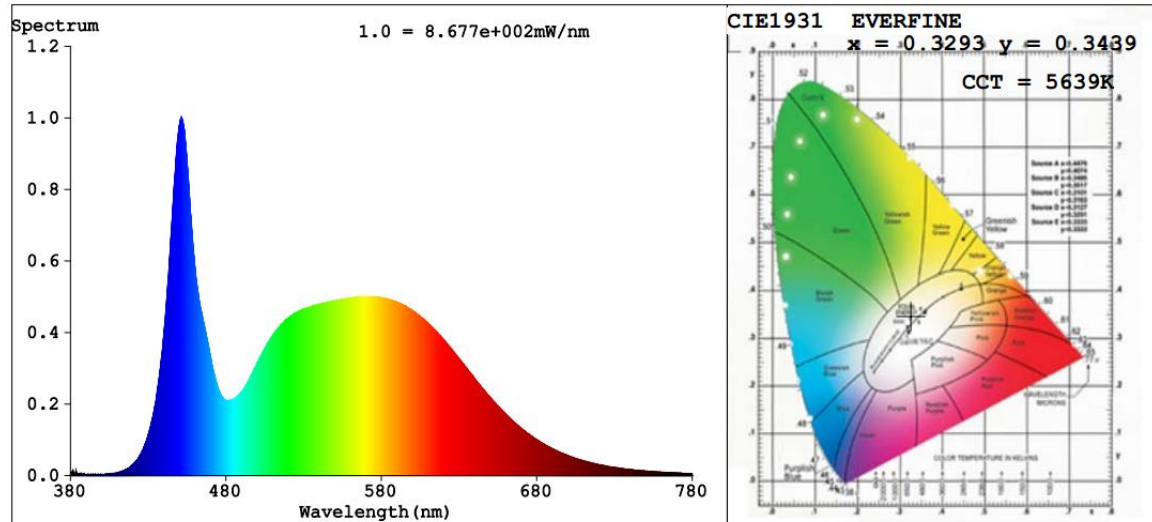
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	120.0	60	2.555	305.3	0.9959	4.36
AL2	277.0	60	1.145	295.5	0.9318	7.89
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	9
Frequency (Hz)	60	R2	87	R10	69
CCT (K)	5639	R3	91	R11	82
Duv	0.0029	R4	83	R12	57
Chromaticity (x, y)	x=0.3293 y=0.3439	R5	82	R13	83
Chromaticity (u', v')	u'=0.2036 v'=0.4785	R6	82	R14	95
Color Rendering Index (CRI)	82.8	R7	88	R15	77
R9	9	R8	69	--	--

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)	38646	37808	>=1000 (-10%)	
Luminous Efficacy (lm/W)	126.58	127.95	Standard: >= 100(-3%)	Premium: >= 120(-3%)

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

Report Format Number STD/QR4909-A/2

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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 *******

Laboratory: Standard-Tech Co. Ltd Testing Center

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