



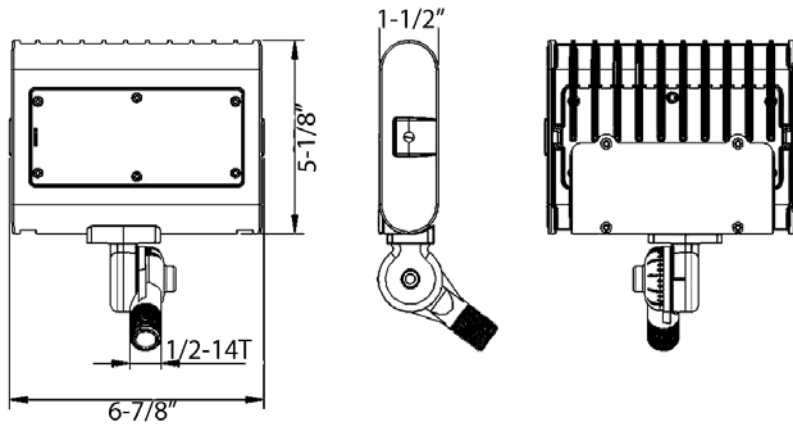
Cat# 71556
 30 Watts
 1/2" Knuckle Mount



Model:		71556
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC 50/60HZ
	Input Current	0.261A Max
	Input Power	30 W
	Power Factor	PF ≥0.90
	Luminance	3450 LM
	Luminous Efficiency	117 LM/W
	CRI	>83
	Beam Angle	90° X 120
LED DRIVER	Main Structure	Aluminium + Tempered Glass
	Output Voltage	24-45VDC
	Output Current	0.7A
LED	Driver Efficiency	89%
	LED Manufacturer	Phillips LUMILED
	LED Type	LUXEON 3030
	LED Quantity	30 PCS
Photocell	LED Efficacy	130 LM/W
	Color Temperature	3000K
LIFESPAN & ENVIRONMENT	Photocell	-
	Lifespan	Not Included
	Warranty	50,000+ Hrs.
	IP Rating	5 Years
	Operating Temperature	IP65, Wet Locations
SAFETY&EMC	Storage Temperature.Humidity	-20℃—+55℃
	Safety Norms	-40℃—+80℃ , 10—90% RH
	Withstand Voltage	UL1598, UL8750, EN60598, EN61347-2-13, EN62031, EN62471
	Grounding Resistance	I/P-FG: 2121VDC
OTHERS	Electromagnetic Compatibility	≤0.5 Ω, 0K
	Dimension	EN55015, EN61000-2-3, EN61000-3-3, EN61547
		Pls refer to attached dimensional drawing
	Q' ty / Carton	
		10 PCS

The above info is for reference only.

Dimension:



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd. Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71532, 71804, 71805, 71806,
71554, 71822, 71555, 71556
71581, 71861

Representative (Tested) Model: 71532

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

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Update: Nov.03, 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	71532	
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	30W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K,5000K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-2780003000W21	
Sample Number	GZE161105-AB1(3000K),AB2(5000K)	
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.01,2016
Test item	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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

<p>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</p> <p>Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at 25 °C ± 1 °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.</p>
<p>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</p> <p>Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25 °C ± 1 °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.</p>
<p>3) Electrical Measurements:</p> <p>Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at 25 °C ± 1 °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.</p>

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction QD25)

Test date	2016-11-01	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71532		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	120.0	60	0.2515	29.57	0.9797	15.97
AB1	277.0	60	0.1150	29.40	0.9226	17.11
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

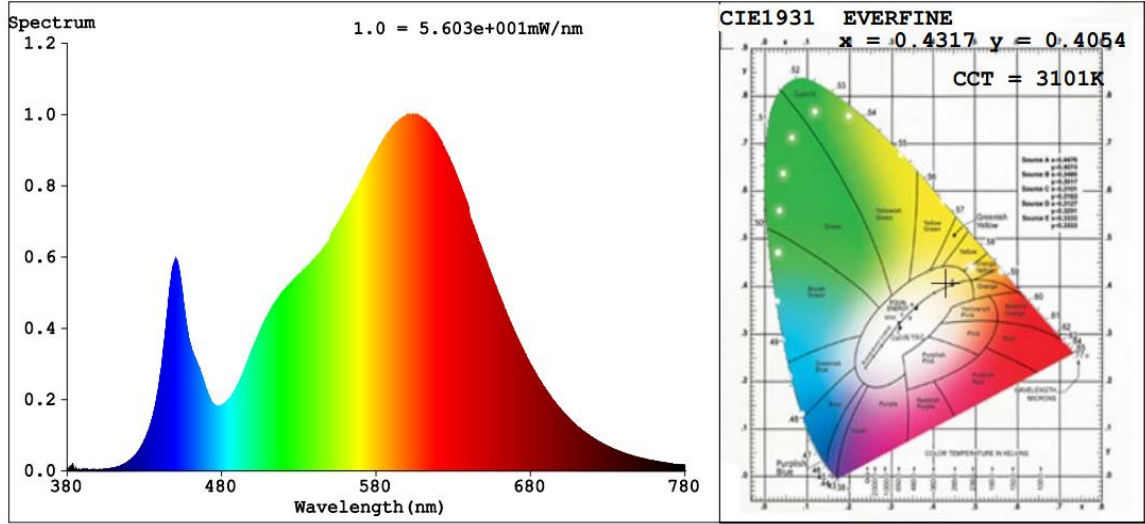
Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	11
Frequency (Hz)	60	R2	90	R10	77
CCT (K)	3101	R3	97	R11	81
Duv	0.0013	R4	82	R12	68
Chromaticity (x, y)	x=0.4317 y=0.4054	R5	81	R13	83
Chromaticity (u', v')	u'=0.2466 v'=0.5211	R6	87	R14	98
Color Rendering Index (CRI)	83.1	R7	85	R15	74
R9	11	R8	62	--	--

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)	3453.2	3397.6	>=1000 (-10%)	
Luminous Efficacy (lm/W)	116.78	115.56	Standard: >= 90(-3%)	Premium: >= 110(-3%)
Zonal lumens in the 0-90 °zone (%)	99.9	--	>=85(-3)	
Beam Angle (°)	110.8	--	--	
Center Beam Candle Power (cd)	1131	--	--	

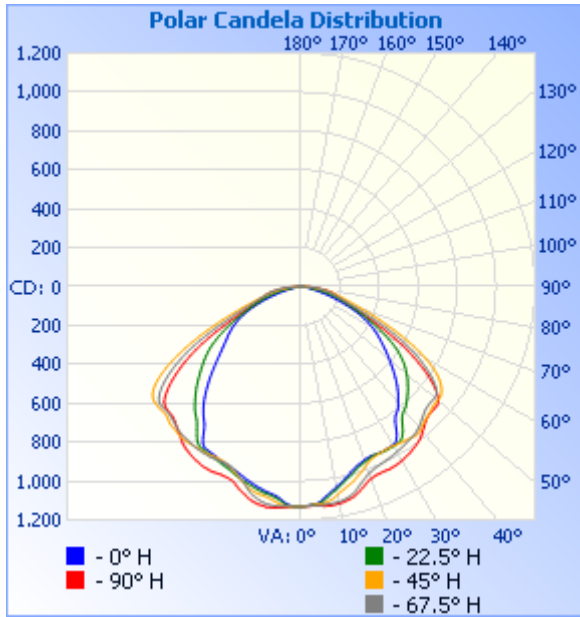
Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	857.7	24.8%
0-40	1,452.3	42.1%
0-60	2,774.1	80.4%
60-90	674.5	19.5%
70-100	258.6	7.5%
90-120	0.8	0%
0-90	3,448.7	99.9%
90-180	3.8	0.1%
0-180	3,452.5	100%

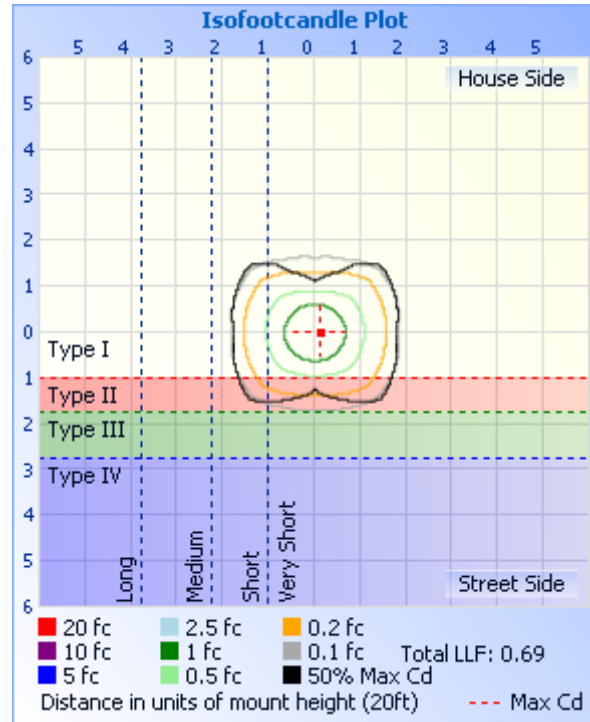
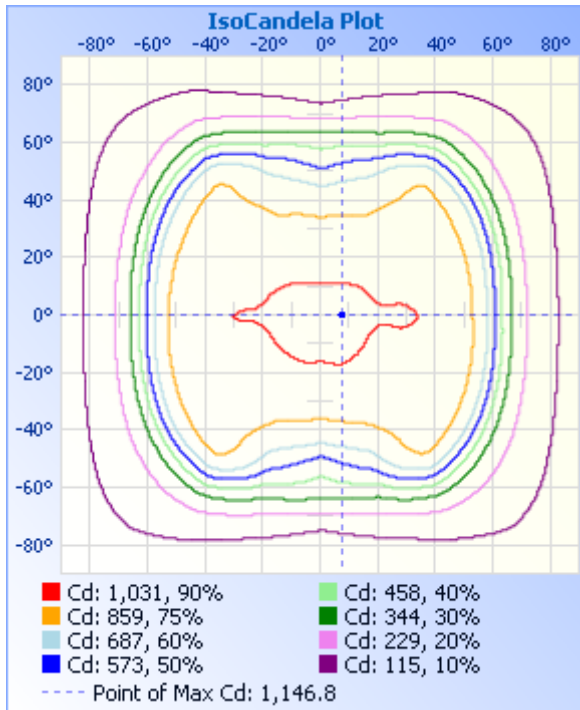
Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	106.2	3.1%	90-100	0.5	0%
10-20	296.3	8.6%	100-110	0.0	0%
20-30	455.2	13.2%	110-120	0.2	0%
30-40	594.7	17.2%	120-130	0.5	0%
40-50	666.0	19.3%	130-140	0.7	0%
50-60	655.8	19.0%	140-150	0.7	0%
60-70	416.4	12.1%	150-160	0.6	0%
70-80	192.9	5.6%	160-170	0.4	0%
80-90	65.2	1.9%	170-180	0.1	0%



Illuminance at a Distance

Distance (ft)	Center Beam fc	Beam Width
17.0ft	3.91 fc	44.0 ft 59.9 ft
34.0ft	0.98 fc	88.1 ft 119.8 ft
51.0ft	0.43 fc	132.1 ft 179.6 ft
68.0ft	0.24 fc	176.1 ft 239.5 ft
85.0ft	0.16 fc	220.2 ft 299.4 ft
102.0ft	0.11 fc	264.2 ft 359.3 ft

■ Vert. Spread: 104.7°
■ Horiz. Spread: 120.8°



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C (DEG) \ γ (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338
0	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131
5	1140	1132	1124	1117	1111	1117	1121	1129	1131	1133	1126	1113	1104	1112	1127	1134
10	1143	1130	1086	1057	1045	1056	1084	1123	1132	1124	1086	1079	1067	1077	1093	1126
15	1108	1084	1035	1000	987	1001	1036	1086	1104	1085	1054	1047	1035	1049	1065	1072
20	1056	1012	974	956	949	958	977	1020	1051	1013	1008	1011	1003	1019	1009	1001
25	1054	994	942	944	945	946	947	997	1041	989	980	986	984	995	980	988
30	1047	988	945	945	941	948	945	981	1033	992	972	973	968	977	985	991
35	1024	974	961	904	842	909	957	965	1010	987	975	926	865	934	988	985
40	978	946	956	820	775	825	955	942	971	970	973	835	776	846	984	972
45	937	903	932	766	691	773	928	900	929	939	969	754	661	765	965	945
50	917	894	908	699	596	708	912	893	919	937	960	666	548	674	958	943
55	785	823	868	613	508	624	875	822	794	861	934	581	467	584	927	859
60	586	659	724	486	425	498	738	658	596	687	772	469	398	464	765	678
65	373	442	508	350	321	356	523	444	381	451	533	341	312	334	528	447
70	249	268	322	241	196	243	330	270	252	279	329	237	203	234	325	281
75	196	184	211	160	97.7	161	216	186	196	201	211	161	107	159	207	202
80	151	133	136	80.5	46.4	81.0	142	137	154	157	136	86.4	51.7	84.4	132	155
85	72.2	82.0	68.1	23.4	18.7	24.2	71.0	84.7	77.8	94.8	70.2	27.4	21.1	26.8	68.9	94.3
90	3.85	13.6	12.6	2.65	2.15	3.19	15.1	16.4	6.28	18.0	14.4	0.21	1.55	1.91	11.6	14.0
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	0.05
110	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.06	0.16	0.21	0.00	0.00	0.00	0.16	0.32
115	0.32	0.37	0.26	0.00	0.00	0.00	0.37	0.42	0.32	0.48	0.27	0.05	0.00	0.11	0.37	0.48
120	0.53	0.58	0.48	0.00	0.00	0.00	0.42	0.48	0.58	0.58	0.58	0.32	0.16	0.27	0.53	0.58
125	0.80	0.85	0.63	0.42	0.31	0.27	0.63	0.84	0.69	0.74	0.58	0.43	0.53	0.53	0.63	0.69
130	1.17	1.16	0.74	0.43	0.48	0.58	0.69	1.16	0.85	0.85	0.58	0.69	0.85	0.74	0.63	0.84
135	1.22	1.11	0.74	0.64	1.33	0.80	0.79	1.16	0.85	0.79	0.58	0.80	0.90	0.85	0.63	0.84
140	1.22	1.21	0.74	1.23	3.07	1.33	0.85	1.11	0.85	0.95	0.58	0.91	0.96	0.85	0.64	0.90
145	1.12	0.79	0.74	1.39	3.08	1.43	0.85	1.00	0.85	0.95	0.69	0.91	0.96	0.96	0.90	0.95
150	1.12	0.74	1.16	1.92	3.08	2.07	0.95	1.00	0.85	1.06	1.00	1.07	0.96	1.06	1.27	0.95
155	0.96	0.85	1.32	2.13	2.87	2.34	1.27	1.00	0.74	1.06	1.06	1.33	0.96	1.12	1.27	0.95
160	0.80	0.85	1.32	2.03	2.45	2.29	1.32	1.11	0.74	1.00	1.16	1.28	0.96	1.06	1.32	1.06
165	0.80	0.85	1.32	1.81	2.07	1.87	1.32	1.11	1.06	1.00	1.16	1.33	1.17	1.22	1.32	1.06
170	0.90	1.21	1.48	1.71	1.86	1.91	1.37	1.27	1.28	1.22	1.37	1.60	1.65	1.86	1.69	1.64
175	1.01	1.27	1.64	1.71	1.86	1.81	1.69	1.32	1.22	1.16	1.37	1.60	1.65	2.02	1.85	1.69
180	1.01	1.37	1.59	1.71	1.97	1.81	1.69	1.43	1.06	1.00	1.37	1.60	1.70	1.97	1.80	1.69

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BUG Rating: B1-U1-G1

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	424.78	12.3
FM - Front-Medium(30-60)	951.2	27.5
FH - Front-High(60-80)	302.95	8.8
FVH - Front-Very High(80-90)	31.485	0.9
Total Forward Light	1712.5	49.6

BL - Back-Low(0-30)	432.94	12.5
BM - Back-Medium(30-60)	965.85	28.0
BH - Back-High(60-80)	306.44	8.9
BVH - Back-Very High(80-90)	33.768	1.0
Total Back Light	1740.8	50.4

UL - Uplight-Low(90-100)	0.52999	0.0
UH - Uplight-High(100-180)	3.3253	0.1
Total Up Light	3.8553	0.1

BUG(Back,Up,Glare) Rating	B1-U1-G1
----------------------------------	-----------------

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	1739	1.7685	1740.8
Street Side	1710.4	2.0868	1712.5

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction QD25)

Test date	2016-11-01	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71532		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	120.0	60	0.2520	29.62	0.9795	15.93
AB2	277.0	60	0.1153	29.45	0.9221	17.07
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

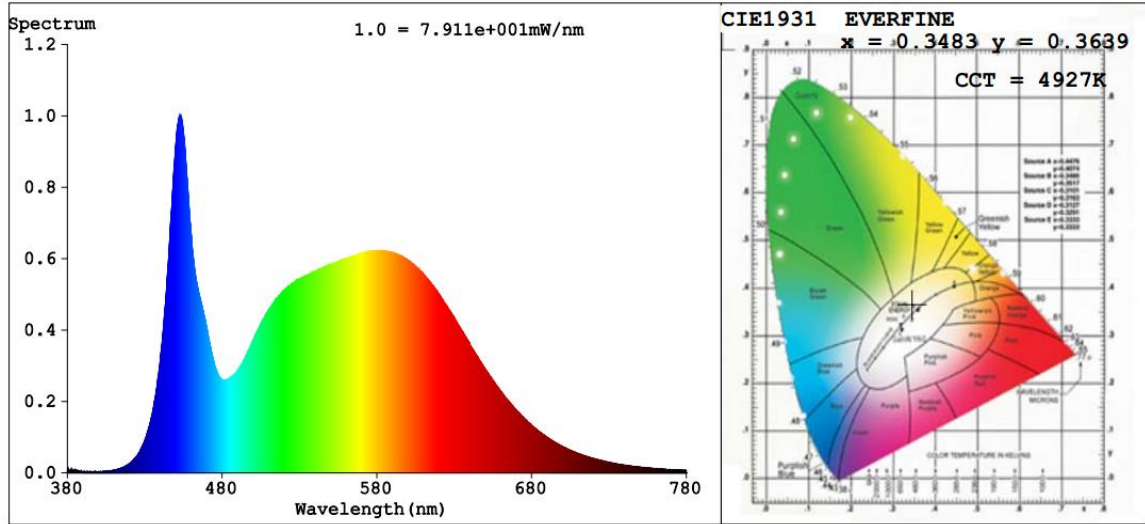
Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	6
Frequency (Hz)	60	R2	89	R10	72
CCT (K)	4927	R3	94	R11	78
Duv	0.0048	R4	80	R12	54
Chromaticity (x, y)	x=0.3483 y=0.3639	R5	80	R13	83
Chromaticity (u', v')	u'=0.2089 v'=0.4910	R6	83	R14	97
Color Rendering Index (CRI)	82.5	R7	88	R15	74
R9	6	R8	66	--	--

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)	3718	3658	>=2000 (-10%)	
Luminous Efficacy (lm/W)	125.52	124.21	Standard: >= 90(-3%)	Premium: >= 110(-3%)

Spectral Power Distribution & Chromaticity Diagram



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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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