Cat# 71834
150 Watts
Trunion Mount

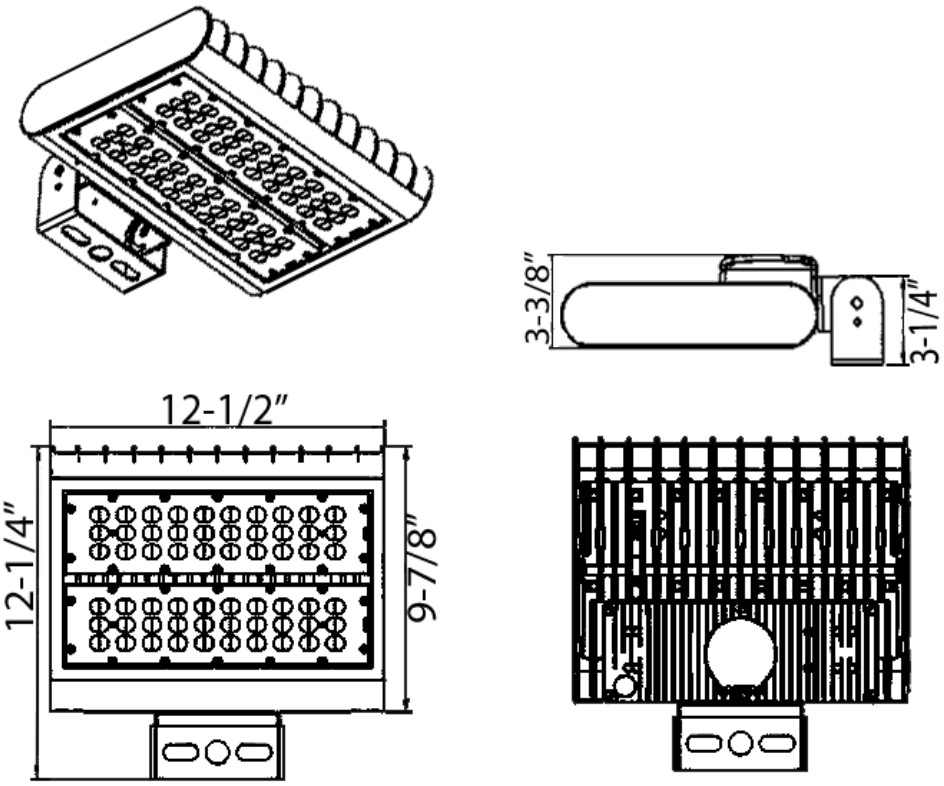
RoHS

UL/CUL
TUV-CE

QPL ID #
PLXA5LT3LLUB

Model :		71834
OVERALL LAMP PARAMETERS	Input Voltage	347-480VAC 50/60HZ
	Input Current	.32A Max
	Input Power	150W
	Power Factor	PF≥ 0.95
	Luminance	18.300 LM
	Luminous Efficiency	122 LM/W
	CRI	>82
	R9	5
	Beam Angle	Type II 120 x 90°
	Main Structure	Aluminium + PC Lens
LED DRIVER	Output Voltage	36-60VDC
	Output Current	4.4A
	THD	9%
	Driver Efficiency	88%
LED	LED Manufacturer	Philips
	LED Type	3030 LED
	LED Quantity	120 PCS
	LED Efficacy	130 LM/W
	Color Temperature	5000K
Photocell	-	Not Included
LIFESPAN & ENVIRONMENT	Lifespan	50,000+ Hrs.
	Warranty	5 Years
	IP Rating	IP65 Wet Locations
	Operating Temperature	-40 —+55
	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 diamension drawing
	Q'ty / Carton	1PCS
	Volume	
	EPA Rating	1.16 ft^2

Dimensions:



NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd. Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71834, 71843, 71854, 71870

Representative (Tested) Model: 71834

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.

1.1 Product Information:

Organization Name	Morris Products Inc.	
Brand Name	MORRIS	
Model Number	71834	
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	277 -480Vac, 50/60 Hz	
Nominal Power	150W	
Rated Initial Lamp Lumen	--	
Declared CCT	5000K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-2780003000W21	
Sample Number	GZE161105-AF1(4000K),AF2(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	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 °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.

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 ºC ±1 ºC. 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 ºC ±1 ºC. 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	2016-11-01	Test Ambient:	25.2 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71834		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-AF1	277.0	60	0.5337	147.1	0.9950	7.53
	480.0	60	0.3187	146.1	0.9552	9.06
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method :

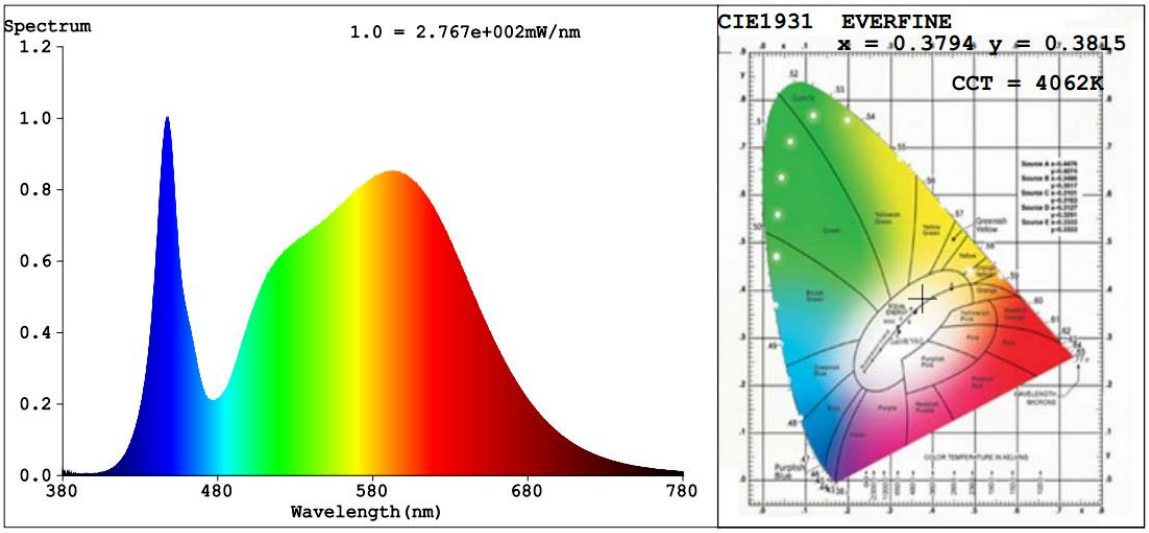
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
CCT (K)	4062
Duv	0.0025
Chromaticity (x, y)	x=0.3794 y=0.3815
Chromaticity (u', v')	u'=0.2225 v'=0.5035
Color Rendering Index (CRI)	82.2
R9	9

Special Color Rendering Indices			
R1	80	R9	9
R2	87	R10	69
R3	92	R11	82
R4	83	R12	61
R5	80	R13	81
R6	82	R14	96
R7	87	R15	74
R8	66	--	--

Photometric Measurement – Goniophotometer Method :

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	277.0	480.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	17972	18295	>=1000 (-10%)	
Luminous Efficacy (lm/W)	122.18	125.22	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	99.8	--	>=85(-3)	
Beam Angle ( )	108.5	--	--	
Center Beam Candle Power (cd)	6071	--	--	

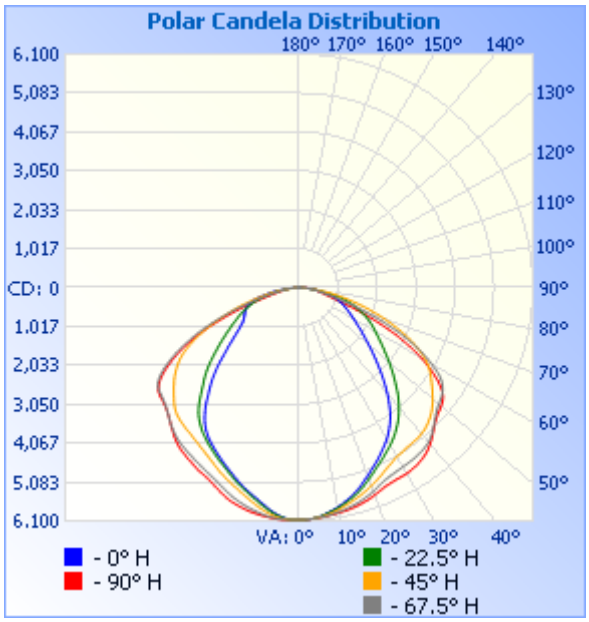
Spectral Power Distribution & Chromaticity Diagram

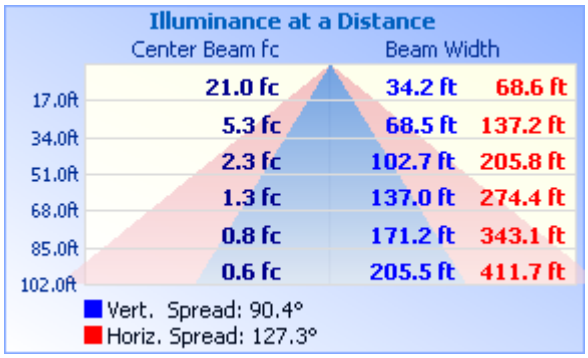


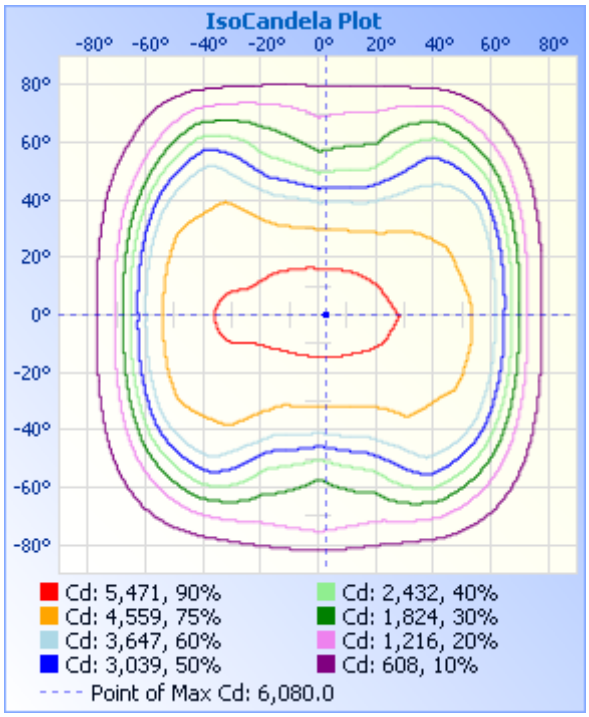
Zonal Lumen Tabulation

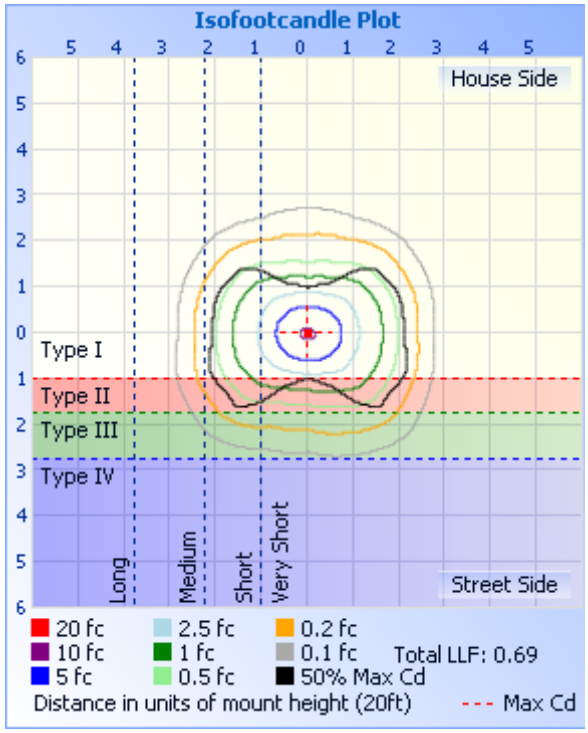
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	4,581.1	25.5%
0-40	7,605.9	42.3%
0-60	14,022.1	78%
60-90	3,904.2	21.7%
70-100	1,483.6	8.3%
90-120	12.5	0.1%
0-90	17,926.3	99.8%
90-180	44.2	0.2%
0-180	17,970.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	570.1	3.2%	90-100	2.5	0%
10-20	1,600.4	8.9%	100-110	4.1	0%
20-30	2,410.7	13.4%	110-120	5.9	0%
30-40	3,024.8	16.8%	120-130	7.7	0%
40-50	3,267.1	18.2%	130-140	7.8	0%
50-60	3,149.1	17.5%	140-150	6.5	0%
60-70	2,423.1	13.5%	150-160	5.2	0%
70-80	1,198.3	6.7%	160-170	3.2	0%
80-90	282.8	1.6%	170-180	1.3	0%


Polar Candela Distribution
180° 170° 160° 150° 140°
130°
120°
110°
100°
90°
80°
70°
60°
50°
6,100
5,083
4,067
3,050
2,033
1,017
CD: 0
1,017
2,033
3,050
4,067
5,083
6,100
VA: 0° 10° 20° 30° 40°
- 0° H
- 90° H
- 22.5° H
- 45° H
- 67.5° H


Illuminance at a Distance
Center Beam fc
Beam Width
17.0ft
34.0ft
51.0ft
68.0ft
85.0ft
102.0ft
21.0 fc 34.2 ft 68.6 ft
5.3 fc 68.5 ft 137.2 ft
2.3 fc 102.7 ft 205.8 ft
1.3 fc 137.0 ft 274.4 ft
0.8 fc 171.2 ft 343.1 ft
0.6 fc 205.5 ft 411.7 ft
Vert. Spread: 90.4°
Horiz. Spread: 127.3°


IsoCandela Plot
-80° -60° -40° -20° 0° 20° 40° 60° 80°
80°
60°
40°
20°
0°
-20°
-40°
-60°
-80°
Cd: 5,471, 90%
Cd: 4,559, 75%
Cd: 3,647, 60%
Cd: 3,039, 50%
Cd: 2,432, 40%
Cd: 1,824, 30%
Cd: 1,216, 20%
Cd: 608, 10%
Point of Max Cd: 6,080.0


Isofootcandle Plot
5 4 3 2 1 0 1 2 3 4 5
House Side
Type I
Type II
Type III
Type IV
Long
Medium
Short
Very Short
Street Side
20 fc
10 fc
5 fc
2.5 fc
1 fc
0.5 fc
0.2 fc
0.1 fc
50% Max Cd
Total LLF: 0.69
Distance in units of mount height (20ft)
Max Cd

γ (DEG) \ C (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338
0	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071	6071
5	6074	6057	6045	6019	6014	6014	6022	6029	6035	6028	6002	5983	5985	5998	6036	6066
10	6023	5980	5921	5847	5820	5845	5893	5953	5974	5915	5798	5710	5700	5745	5851	5977
15	5931	5823	5714	5613	5566	5620	5711	5835	5897	5748	5548	5447	5436	5474	5598	5831
20	5767	5625	5470	5300	5226	5322	5508	5665	5768	5576	5338	5182	5153	5209	5374	5629
25	5550	5381	5210	4977	4903	5020	5282	5479	5639	5454	5149	4932	4891	4959	5155	5428
30	5414	5212	4935	4663	4570	4749	5104	5410	5609	5425	5028	4699	4638	4721	4948	5287
35	5270	5099	4698	4282	4144	4440	5029	5365	5524	5386	4991	4443	4291	4461	4798	5166
40	5070	4970	4507	3796	3567	4052	4972	5260	5319	5274	4939	4018	3709	4078	4693	5024
45	4800	4762	4282	3240	2949	3562	4820	4989	5011	5058	4758	3487	3087	3535	4558	4800
50	4632	4524	3978	2725	2404	3083	4546	4748	4830	4842	4420	2951	2422	3030	4267	4605
55	4480	4381	3649	2281	1983	2649	4208	4573	4502	4579	4014	2448	1939	2498	3951	4501
60	3861	4094	3349	1922	1654	2301	3826	4001	3692	3905	3475	2065	1674	2062	3524	3975
65	2894	3329	2943	1638	1399	2003	3176	3038	2563	2883	2693	1754	1565	1719	2828	3061
70	1702	2314	2321	1368	1180	1654	2359	1851	1393	1788	1863	1416	1442	1388	2005	1993
75	813	1256	1584	1064	963	1237	1538	914	737	929	1147	1069	1216	1034	1264	1036
80	442	558	891	632	617	681	826	502	496	510	586	629	771	611	670	506
85	247	229	270	248	253	253	253	313	336	266	166	248	319	233	201	259
90	2.44	2.91	3.56	2.77	2.82	3.16	3.51	3.17	2.16	2.43	2.60	2.07	2.07	2.23	2.60	2.33
95	1.63	2.11	2.60	2.02	2.07	2.07	2.50	2.33	1.74	2.38	2.76	1.80	1.59	2.18	2.60	1.91
100	2.52	3.32	3.02	2.02	2.07	2.02	3.13	3.43	2.63	3.38	3.45	1.96	1.80	2.55	3.56	2.81
105	4.83	5.11	4.35	2.54	2.55	2.60	4.45	5.39	4.43	4.96	4.46	2.55	2.07	2.98	4.73	4.56
110	6.89	7.06	5.52	3.23	3.39	3.40	5.73	7.19	6.16	5.97	4.83	3.13	2.81	3.56	5.42	6.15
115	8.27	8.59	6.79	3.71	4.50	3.99	6.84	8.84	7.11	7.23	5.78	3.18	3.19	3.88	6.32	7.15
120	9.95	9.60	8.22	5.08	4.58	4.94	8.06	9.84	8.22	7.92	6.47	4.20	3.94	5.00	6.74	7.57
125	11.3	11.0	8.80	9.05	16.7	7.12	8.86	11.3	8.95	8.29	6.58	5.31	5.58	6.07	6.85	8.21
130	12.2	11.6	8.96	10.7	25.2	8.77	8.92	11.7	9.79	8.29	7.06	6.27	6.85	6.82	7.16	8.69
135	12.2	10.9	8.75	12.0	16.9	10.5	8.49	11.0	9.80	8.50	7.00	7.43	7.75	7.87	7.06	8.89
140	11.9	10.9	8.75	10.8	22.5	10.6	8.49	10.9	10.1	9.29	7.05	8.60	8.12	8.03	6.79	9.53
145	11.6	9.45	9.33	12.3	20.8	11.4	7.85	10.5	10.7	9.50	7.76	9.29	8.77	8.99	7.81	9.80
150	11.6	9.34	10.8	13.1	18.9	12.2	9.17	10.6	10.5	10.2	9.44	10.2	10.1	9.89	10.4	10.2
155	9.96	9.87	12.0	13.1	16.7	11.4	10.6	10.9	10.0	10.7	10.2	11.6	10.5	10.5	10.6	10.1
160	9.69	9.87	12.0	12.0	12.0	11.1	11.3	11.3	9.48	10.4	10.7	11.7	12.2	11.9	10.9	10.3
165	10.0	10.4	12.0	11.9	11.5	11.3	11.6	10.5	10.7	9.98	11.0	11.8	11.7	11.8	11.4	11.0
170	11.3	11.7	14.1	13.3	13.2	13.2	14.0	11.4	12.1	11.9	12.9	14.4	14.7	14.0	13.7	13.8
175	11.5	13.0	14.8	14.1	14.9	13.9	14.7	11.9	12.3	12.2	13.5	14.5	14.8	15.2	13.8	14.3
180	10.9	13.2	13.7	14.1	14.6	14.0	14.2	11.2	11.3	11.1	12.8	13.6	13.7	14.5	13.5	13.9

BUG Rating: B3-U2-G2

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	2300.7	12.8
FM - Front-Medium(30-60)	4683.3	26.1
FH - Front-High(60-80)	1880.6	10.5
FVH - Front-Very High(80-90)	145.53	0.8
Total Forward Light	9034.6	50.3

BL - Back-Low(0-30)	2280.6	12.7
BM - Back-Medium(30-60)	4759.6	26.5
BH - Back-High(60-80)	1740.5	9.7
BVH - Back-Very High(80-90)	137.26	0.8
Total Back Light	8937.8	49.7

UL - Uplight-Low(90-100)	2.6271	0.0
UH - Uplight-High(100-180)	41.648	0.2
Total Up Light	44.275	0.2

BUG(Back,Up,Glare) Rating	B3-U2-G2

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	8918	19.858	8937.8
Street Side	9010.2	24.417	9034.6

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction QD25)

Test date	2016-11-01	Test Ambient:	25.2 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71834		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-AF2	277.0	60	0.5303	146.2	0.9953	7.58
	480.0	60	0.3166	145.2	0.9556	9.11
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method :

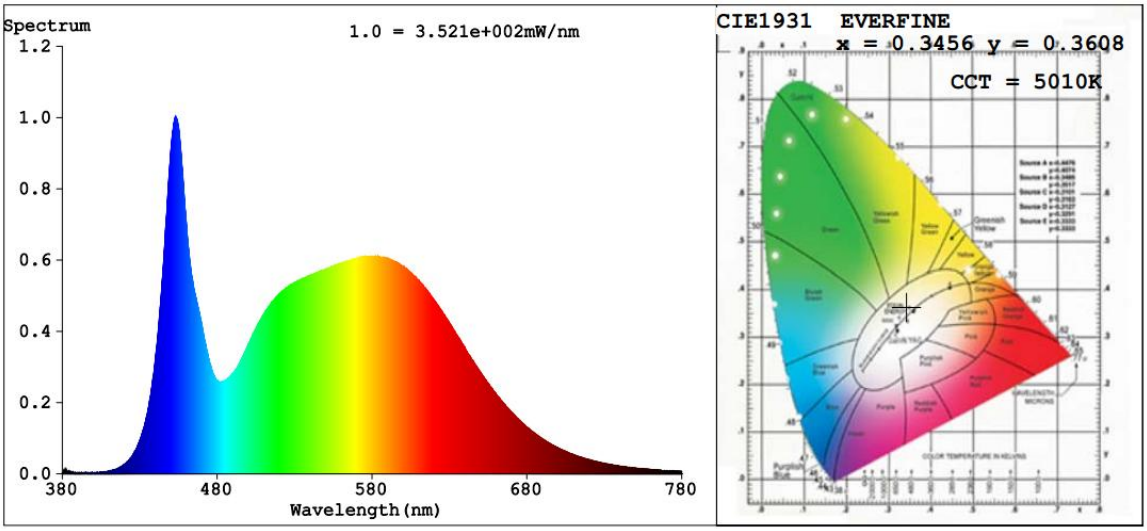
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
CCT (K)	5010
Duv	0.0043
Chromaticity (x, y)	x=0.3456 y=0.3608
Chromaticity (u', v')	u'=0.2083 v'=0.4892
Color Rendering Index (CRI)	82.7
R9	5

Special Color Rendering Indices			
R1	80	R9	5
R2	89	R10	73
R3	94	R11	80
R4	81	R12	59
R5	81	R13	83
R6	84	R14	97
R7	87	R15	75
R8	66	--	--

Photometric Measurement – Sphere-Spectroradiometer Method :

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	277.0	480.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	18167	18494	>=2000 (-10%)	
Luminous Efficacy (lm/W)	124.26	127.37	Standard: >= 100(-3%)	Premium: >= 120(-3%)

Spectral Power Distribution & Chromaticity Diagram



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 ********