

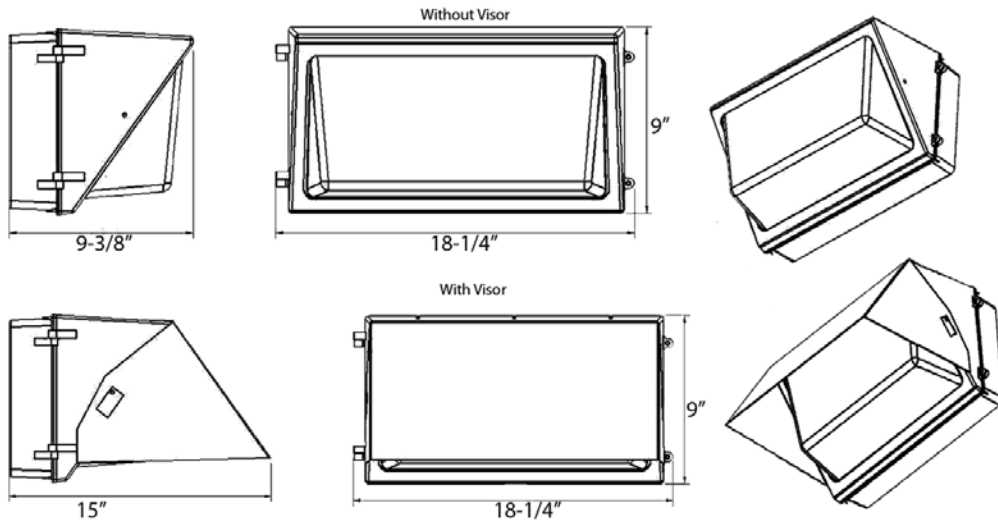


**Cat# 71441**  
**LED Classic Large Wall-Pack**



Model :		71441
<b>OVERALL LAMP PARAMETERS</b>	Input Voltage	100-277VAC
	Input Current	.98@120VAC, .90@277VAC
	Input Power	121W
	Power Factor	PF≥0.9
	Luminance	12333LM
	Luminous Efficiency	101LM/W
	CRI	83
	Beam Angle	114.8°
	Main Structure	Alluminium + Tempered Glass
	Surface	Baking Varnish
<b>LED DRIVER</b>	Output Voltage	25.2-42VDC
	Output Current	1.2A
	Driver Efficiency	88%
<b>LED</b>	LED Type	LUMILED LUXEON 3030
	LED Quantity	100 PCS
	LED Manufacturer	Phillips
	LED Efficacy	140 lm/W
	Color Temperature	4983K
<b>LIFESPAN &amp; ENVIRONMENT</b>	Lifespan	50000 Hrs.
	Warranty	5 Years
	IP Rating	IP65
	Operating Temperature	-40°F—+131°F
	Storage Temperature, Humidity	-40°F—+176°F, 10—90% RH
<b>SAFETY&amp;EMC</b>	Safety Norms	EN60598, EN61347-2-13, EN62031, EN62471, UL1598, UL8750
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	25A 100mΩ
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
	DLC	DLC Listed
<b>OTHERS</b>	Dimension	Pls refer to attached dimension drawing
	Net Weight(Kg)	4.3
	Gross Weight(Kg)	5.2
	Box Size	--
	Carton Size	390*230*315
	Q'ty / Carton	1

Dimension: 71441





## LM-79-08 Test Report

For

### Morris Products Inc.

53 Carey Rd  
Queensbury, NY 12804

Brand Name: Morris

## LED WALLPACKS LIGHT

Model: 71441

### Laboratory: Leading Testing Laboratories

NVLAP CODE: 200960-0  
No.180S, DongLiu road, BinJiang District, Hangzhou, China  
Tel: +86-571-56680806 www.ledtestlab.com

Report No.: HZ15110041j

The laboratory that conducted the testing detailed in this report has been accredited for SSL by NVLAP.

Reviewed by:

Engineer: April Zou  
Dec. 10, 2015



Manager: Jim Zhang  
Dec. 10, 2015

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

**Test Summary**

Sample Tested: 71441

Luminous Efficacy (Lumens /Watt)	Total Luminous Flux (Lumens)	Power (Watts)	Power Factor
101.9	12333.0	121.03	0.9853
CCT (K)	CRI	Stabilization Time (Light & Power)	BUG (Back, Up, Glare) Rating
4983	83.2	60	B2-U5-G5

Table 1: Executive Data Summary

**Test specifications:**

Date of Receipt : Nov. 30, 2015

Date of Test : Dec. 09, 2015

Test item : Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters

Reference Standard : IESNA LM-79-2008 Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

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### Sample Photos



Figure 1- Overview of the sample

#### Equipment Under Test (EUT)

Name	: LED WALLPACKS LIGHT
Model	: 71441
Electrical Ratings	: 120~277VAC, 50/60Hz, 120W
Product Description	: 5000K, Outdoor Wall-Mounted Area Luminaires
Manufacturer	: Morris Products Inc.
Address	: 53 Carey Rd Queensbury, NY 12804

## TEST RESULTS

Test ambient temperature was 24.3°C.

Base orientation was Light down. Test was conducted without a dimmer in the circuit.

The stabilization time of the sample was 60 minutes, and the total operating time including stabilization was 85 minutes.

Parameter	Result	
Test Voltage (V)	120.0	277.0
Voltage frequency (Hz)	60	60
Test Current (A)	1.023	0.493
Power Factor	0.9853	0.9015
Test Power (W)	121.03	123.08
THD A%	14.53	20.60
Luminous Efficacy (lm/W)	101.9	
Total Luminous Flux (lm)	12333.0	
Color Rendering Index (CRI)	83.2	
R9	6	
Correlated Color Temperature (CCT) (K)	4983	
Chromaticity (Chroma x, Chroma y)	(0.3462, 0.3591)	
Chromaticity (Chroma u, Chroma v)	(0.2093, 0.3256)	
Chromaticity (Chroma u , Chroma v )	(0.2093, 0.4884)	
Duv	0.0033	
Average Beam Angle (°)	114.8	
Center Beam Candle Power (cd)	2307	
Spacing Criteria	0.56 (0°-180°)/ 1.15(90°-270°)	
Zonal Lumens in the 0°-60°Zone	45.15%	
Zonal Lumens in the 60°-90°Zone	33.37%	
Zonal Lumens in the 90°-120°Zone	17.70%	
Zonal Lumens in the 120°-180°Zone	3.78%	

Special Color Rendering Indices	
R1	81
R2	89
R3	94
R4	82
R5	82
R6	85
R7	86
R8	66
R9	6
R10	74
R11	81
R12	64
R13	83
R14	97

Table 2: Test data per Goniophotometer Method

Note: According to CIE 1976 (u , v ) diagram,  $u = u = 4x/(-2x+12y+3)$ ,  $v = 3v/2 = 9y/(-2x+12y+3)$ .

### Spectral Power Distribution

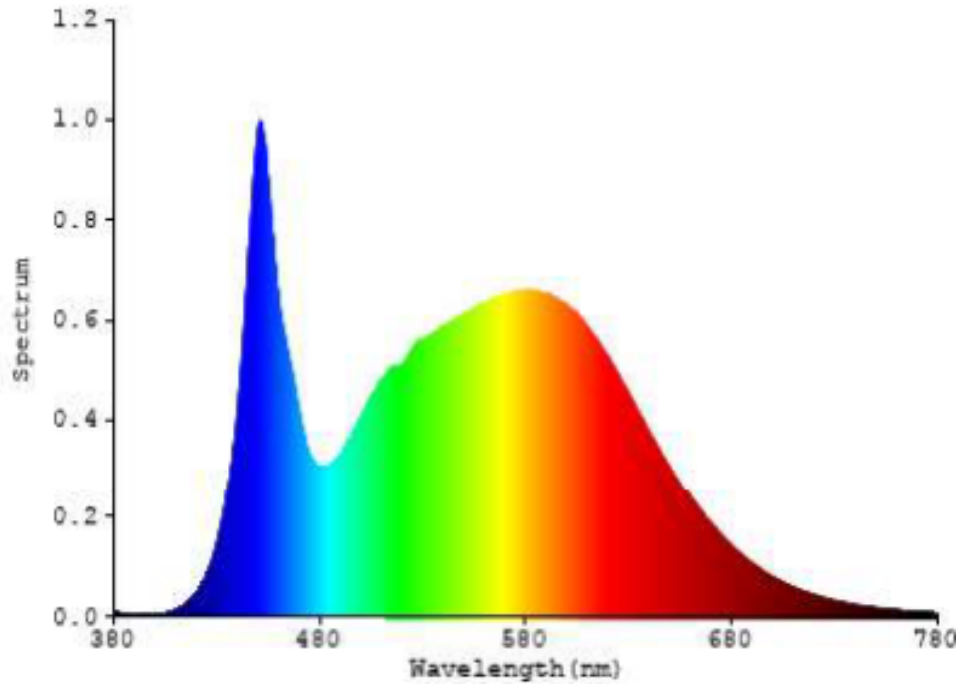


Chart 1: Spectral Power Distribution



### Zonal Lumen Tabulation

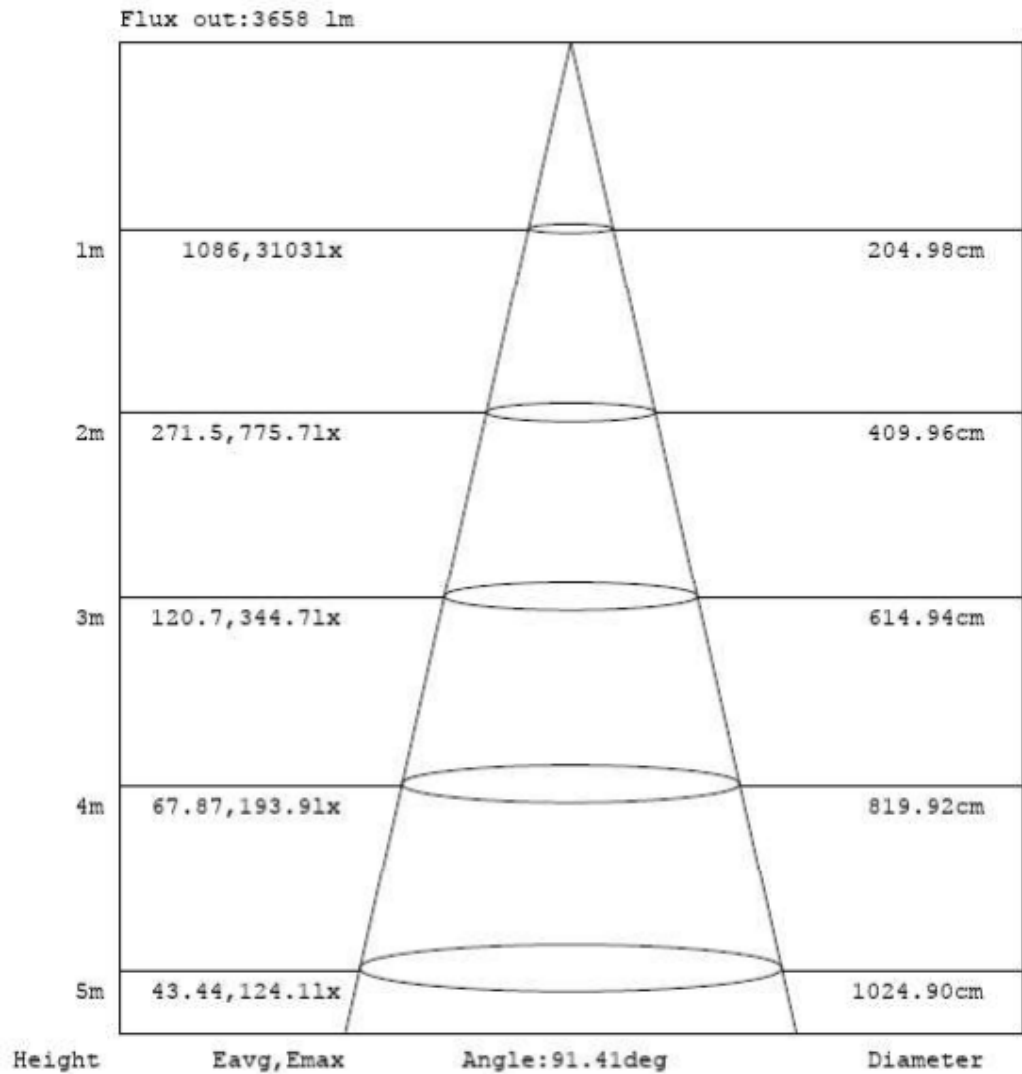
$\gamma(^{\circ})$	Lumens	% Total
0- 10	220.739	1.79%
10- 20	632.217	5.13%
20- 30	950.78	7.71%
30- 40	1129.85	9.16%
40- 50	1241.328	10.07%
50- 60	1393.761	11.30%
60- 70	1455.257	11.80%
70- 80	1421.123	11.52%
80- 90	1239.321	10.05%
90-100	1022.796	8.29%
100-110	727.525	5.90%
110-120	432.985	3.51%
120-130	248.167	2.01%
130-140	127.039	1.03%
140-150	61.742	0.50%
150-160	24.663	0.20%
160-170	3.581	0.03%
170-180	0.234	0.00%
Total	12333.1	100%

$\gamma(^{\circ})$	Lumens	% Total
0- 60	5568.675	45.15%
60- 90	4115.701	33.37%
0-90	9684.376	78.52%
90- 180	2648.732	21.48%
0- 180	12333.1	100%

Table 3: Zonal Lumen Data

Note: The Flux in this table might be a little different from the total flux in Table 2 due to rounding.

**Illuminance Plots**



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

Chart 2: Beam Angle

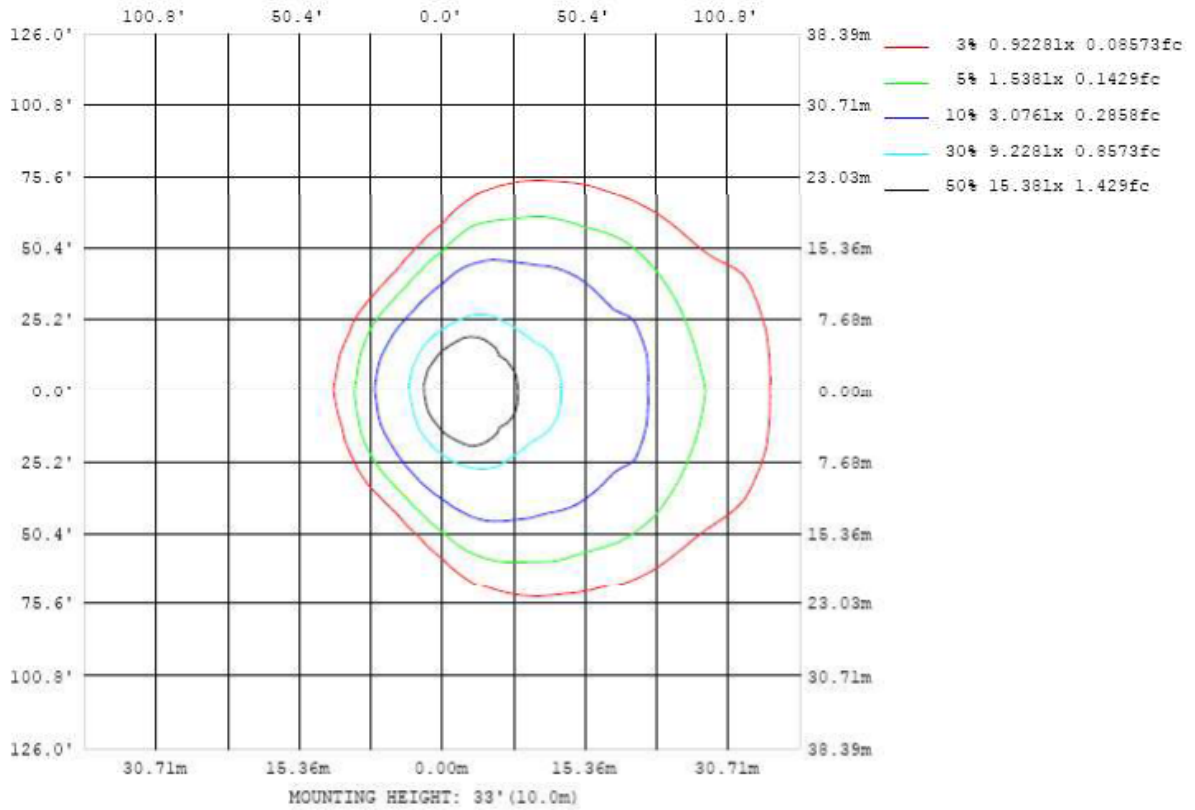


Chart 3: Illuminance Plot (Footcandles)

### Luminous Intensity Distribution Plots

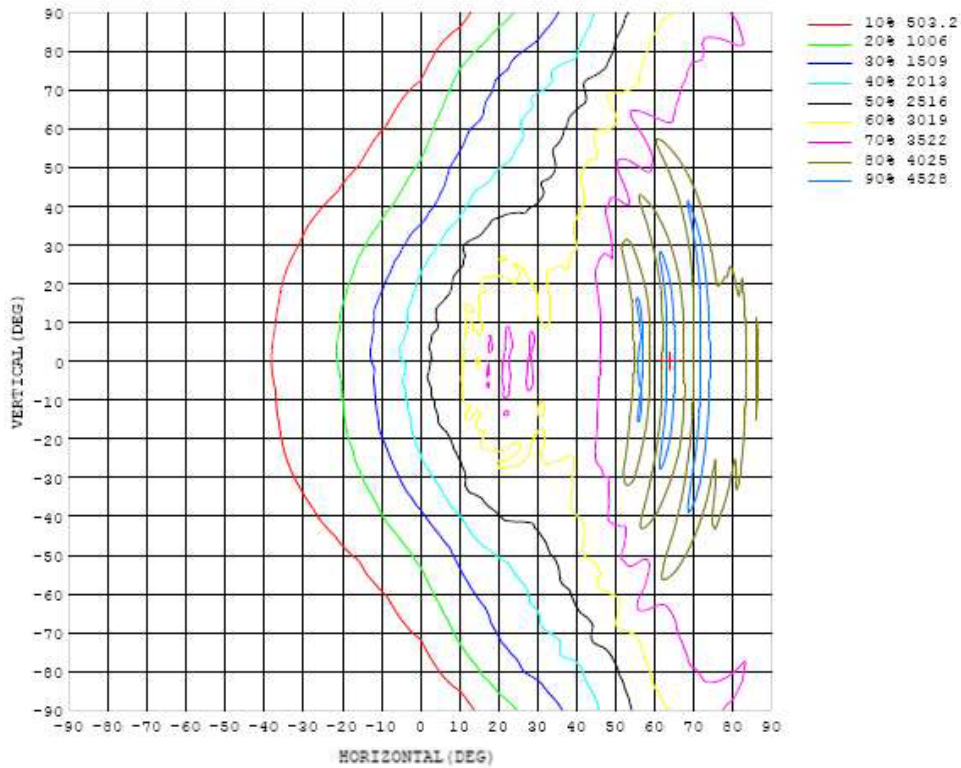


Chart 4: Isocandela Plot

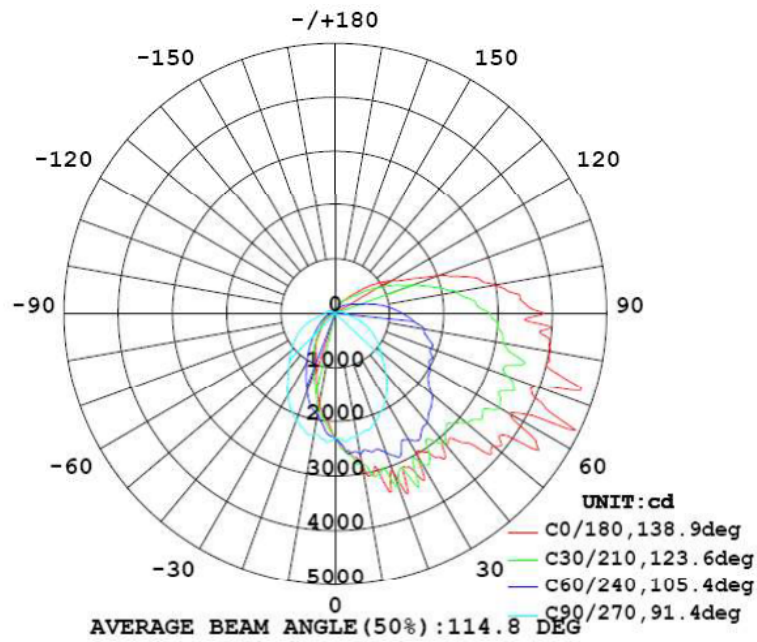


Chart 5: Polar Candela Distribution

Luminous Intensity Data

Table--1

UNIT: cd

C (DEG) \ y (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307
5	2551	2557	2592	2608	2625	2637	2590	2498	2442	2370	2316	2242	2182	2111	2055	2015	1985	1966	1956
10	2825	2812	2843	2801	2733	2624	2633	2548	2407	2277	2146	2057	1965	1888	1861	1822	1759	1696	1698
15	2955	2978	3075	3066	3079	2779	2652	2554	2401	2234	2031	1883	1803	1678	1532	1430	1376	1320	1326
20	3104	3138	3209	3410	2968	2948	2743	2496	2348	2142	1887	1734	1589	1380	1240	1143	1092	1060	1048
25	3135	3249	3183	3476	3083	2950	2867	2438	2248	2005	1720	1524	1313	1143	1032	941	887	864	850
30	3011	3253	3388	3204	3277	2914	2687	2441	2124	1848	1556	1304	1103	949	856	806	773	751	727
35	3242	3248	3067	2915	3072	2962	2743	2475	1991	1644	1363	1100	916	781	722	678	628	597	591
40	3127	3170	3190	3125	2868	2702	2639	2238	1822	1450	1178	914	749	642	587	539	485	459	451
45	3383	3339	3145	2904	2827	2728	2486	2121	1635	1252	977	745	610	526	473	431	386	385	379
50	3822	3843	3608	3147	2806	2507	2314	1944	1487	1100	801	592	486	430	374	344	316	313	316
55	4143	3800	3581	3210	3044	2400	2010	1500	1000	600	400	300	200	150	100	80	60	50	50
60	3717	3791	3978	3493	2998	2403	2009	1691	1298	829	529	372	307	281	253	214	169	151	164
65	4412	4676	4162	3395	2887	2422	1963	1566	1183	699	417	304	247	219	184	137	95.5	90.5	97.3
70	3975	3862	3676	3371	2883	2307	1881	1508	1066	558	331	249	199	157	113	69.6	54.4	47.7	57.7
75	4195	4273	4189	3597	2731	2115	1771	1406	924	417	270	208	149	100.0	57.6	27.7	9.57	6.88	14.0
80	4034	3933	3619	3148	2538	2009	1654	1261	728	296	222	172	106	55.0	23.1	4.96	1.94	2.06	5.32
85	3780	3719	3515	3018	2371	1837	1426	1045	506	219	185	143	81.9	41.5	18.1	3.79	2.16	2.31	5.48
90	3835	3557	3179	2842	2231	1649	1236	799	325	182	160	125	69.3	34.0	14.5	2.87	2.41	2.56	5.63
95	3412	3290	2974	2578	2000	1487	1054	614	249	170	145	107	57.6	27.9	11.6	2.51	2.62	2.80	5.66
100	2995	2898	2663	2260	1804	1271	865	448	213	157	131	89.0	46.9	22.9	9.41	2.53	2.79	2.96	5.55
105	2576	2475	2211	1870	1500	1060	662	342	191	144	113	70.9	37.7	18.8	7.57	2.59	2.85	3.03	5.33
110	2035	1948	1734	1518	1210	852	498	281	167	125	93.3	55.3	30.2	15.5	5.96	2.61	2.84	2.99	4.85
115	1471	1438	1345	1217	983	656	394	238	138	103	73.2	43.1	23.9	12.5	4.50	2.58	2.80	2.95	4.27
120	1196	1155	1073	952	759	517	328	203	108	82.3	55.9	33.4	19.2	10.0	3.21	2.57	2.75	2.87	3.66
125	969	940	875	754	601	422	275	169	79.6	62.9	42.4	26.2	15.3	7.75	2.54	2.51	2.65	2.76	3.19
130	737	724	660	553	465	345	239	133	88.0	46.2	32.0	20.0	11.6	5.43	2.24	2.38	2.48	2.56	2.96
135	522	508	481	419	377	291	198	99.2	41.2	33.2	23.9	14.9	8.30	3.44	2.08	2.17	2.24	2.31	2.89
140	393	382	364	346	313	243	156	64.1	28.8	23.0	17.0	10.6	5.53	2.32	2.13	2.20	2.27	2.34	2.84
145	299	296	291	288	247	192	109	36.4	19.2	15.0	11.0	6.92	3.40	2.09	2.16	2.23	2.29	2.36	2.78
150	251	249	240	228	190	130	60.8	14.5	11.5	8.90	6.36	3.81	2.15	2.13	2.18	2.24	2.30	2.36	2.70
155	198	195	179	156	122	68.5	23.1	6.90	5.78	4.48	3.11	2.14	2.14	2.18	2.22	2.27	2.31	2.37	2.62
160	122	119	105	80.3	50.4	21.1	2.30	2.43	2.27	2.11	2.16	2.21	2.24	2.25	2.28	2.31	2.34	2.39	2.46
165	39.8	37.9	29.4	18.9	5.73	1.93	2.02	2.12	2.21	2.28	2.32	2.35	2.37	2.37	2.37	2.37	2.39	2.42	2.38
170	1.88	1.91	1.87	1.92	1.98	2.06	2.16	2.26	2.35	2.42	2.46	2.48	2.48	2.46	2.45	2.44	2.44	2.46	2.36
175	2.06	2.04	2.06	2.10	2.16	2.24	2.33	2.42	2.51	2.59	2.64	2.67	2.68	2.68	2.70	2.70	2.69	2.73	2.29
180	2.19	2.14	2.15	2.17	2.21	2.27	2.34	2.42	2.48	2.55	2.60	2.64	2.66	2.68	2.68	2.69	2.70	2.74	2.19

Table 4: Luminous Intensity Data



Table--2 UNIT: cd

C (DEG) y (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307	2307		
5	1985	2007	2032	2076	2123	2174	2222	2287	2338	2416	2473	2562	2646	2683	2678	2677	2675		
10	1734	1777	1780	1810	1837	1902	2007	2158	2279	2397	2501	2567	2604	2781	2767	2884	2887		
15	1358	1377	1413	1542	1665	1776	1863	2025	2234	2403	2573	2696	2788	3055	3075	3170	3138		
20	1067	1083	1106	1262	1378	1523	1655	1841	2107	2290	2445	2729	2948	3041	3420	3382	3368		
25	861	877	946	1007	1114	1283	1458	1675	1943	2199	2445	2783	3048	3112	3471	3328	3278		
30	726	749	770	826	914	1064	1245	1476	1755	2073	2475	2721	2923	3165	3278	3482	3517		
35	591	611	642	679	755	864	1040	1268	1529	1898	2329	2671	2942	3064	2945	3007	3213		
40	440	468	516	549	621	699	839	1062	1327	1694	2152	2579	2718	2815	3097	3155	3259		
45	356	370	395	442	498	559	682	903	1182	1589	2064	2393	2582	2862	3039	3226	3342		
50	304	324	322	360	392	448	552	764	1059	1537	1892	2217	2473	2914	3189	3681	3908		
55	270	280	281	302	317	367	447	627	820	1123	1391	1690	2100	2605	3240	3453	3664		
60	163	176	224	242	255	295	363	528	815	1345	1759	2037	2527	3077	3586	3950	3962		
65	95.1	112	139	188	205	242	304	426	702	1227	1607	2094	2500	2949	3614	4302	4862		
70	55.9	57.7	88.4	121	156	199	258	340	573	1126	1561	2022	2428	3002	3422	3682	3887		
75	14.4	17.4	31.1	59.6	103	156	221	276	427	1009	1469	1840	2234	3027	3862	4244	4407		
80	5.17	4.77	10.4	29.0	61.2	119	184	227	293	820	1320	1711	2089	2668	3209	3700	3962		
85	5.32	4.91	8.21	22.4	48.4	98.2	154	190	209	561	1087	1476	1924	2545	3147	3587	3825		
90	5.45	5.02	6.75	17.7	38.9	84.4	137	169	179	369	856	1267	1749	2369	2931	3189	3596		
95	5.47	5.04	5.66	14.4	31.9	68.9	121	155	172	289	672	1100	1553	2126	2683	3127	3410		
100	5.34	4.92	4.81	11.9	25.9	54.2	103	140	163	248	518	926	1338	1886	2353	2763	3043		
105	5.12	4.71	4.32	9.75	21.2	42.3	84.4	122	152	223	404	734	1126	1587	1936	2354	2675		
110	4.65	4.29	3.88	7.63	17.0	32.9	63.9	103	138	198	335	582	913	1272	1576	1883	2131		
115	4.09	3.77	3.42	5.59	13.3	25.7	47.5	81.8	115	167	278	465	746	1044	1264	1426	1580		
120	3.51	3.26	2.97	3.99	10.3	19.7	35.2	60.4	89.3	136	237	370	583	823	1000	1137	1249		
125	3.05	2.87	2.64	2.80	7.52	15.0	26.1	42.7	64.7	99.2	202	308	466	628	814	936	1039		
130	2.85	2.73	2.56	2.37	5.35	11.1	19.1	30.2	50.0	86.7	164	270	387	571	687	886	1000		
135	2.82	2.71	2.58	2.44	3.76	7.89	13.7	21.3	31.0	43.0	129	224	305	394	456	514	559		
140	2.78	2.72	2.63	2.53	2.68	5.29	9.30	14.5	21.0	28.7	91.5	186	270	330	333	375	411		
145	2.74	2.69	2.63	2.56	2.47	3.42	5.86	9.24	13.4	18.3	54.7	141	218	270	283	296	313		
150	2.66	2.62	2.59	2.56	2.51	2.47	3.51	5.30	7.69	10.5	22.5	89.1	162	207	233	251	264		
155	2.58	2.55	2.54	2.53	2.52	2.49	2.45	2.92	3.80	4.95	6.06	35.7	92.6	141	176	198	213		
160	2.43	2.42	2.42	2.43	2.45	2.47	2.48	2.47	2.44	2.42	2.44	2.31	28.8	66.5	101	126	140		
165	2.37	2.37	2.39	2.41	2.44	2.49	2.53	2.57	2.58	2.57	2.54	2.47	2.38	7.76	25.9	40.4	52.2		
170	2.35	2.33	2.37	2.42	2.47	2.53	2.62	2.69	2.75	2.78	2.79	2.76	2.69	2.62	2.55	2.50	2.46		
175	2.29	2.25	2.27	2.32	2.37	2.44	2.52	2.60	2.66	2.73	2.77	2.76	2.74	2.71	2.66	2.63	2.62		
180	2.19	2.14	2.15	2.18	2.21	2.27	2.35	2.43	2.48	2.55	2.61	2.64	2.66	2.67	2.66	2.67	2.69		

Table 5: Luminous Intensity Data

## EQUIPMENT LIST

Test Equipment	Model	Equipment No.	Calibration Date	Calibration Due date
Goniophotometer system	GO-R5000	HZTE011-01	Jul. 17, 2015	Jul. 16, 2016
Digital Power Meter	PF2010A	HZTE028-01	Jul. 17, 2015	Jul. 16, 2016
AC Power Supply	PCR 500L	HZTE001-08	Jul. 17, 2015	Jul. 16, 2016
DC Power Supply	WY12010	HZTE004-03	Jul. 17, 2015	Jul. 16, 2016
Temperature Meter	TES1310	HZTE017-01	Jul. 17, 2015	Jul. 16, 2016
Standard Source	D908	HZTE012-01	Jul. 23, 2015	Jul. 22, 2016
Standard source	SCL-1400	HZTE012-02	Oct. 21, 2015	Oct. 20, 2016

Table 6: Test Equipment List

## TEST METHODS

### Seasoning of SSL Product

For the purpose of rating new SSL products, SSL products shall be tested with no seasoning. Therefore, no seasoning was performed.

### Goniophotometer Method

#### Photometric and Electrical Measurements

An EVERFINE Type C Model GO-R5000 Goniophotometer was used to measure the intensity at each angle of distribution for each sample. The photometric distance is 2.475m for near-field measurement or 30m for far-field measurement. Bandwidth of spectroradiometer is 380nm-780nm.

Ambient temperature was measured at the same height of the sample mounted on the Goniophotometer equipment. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation.

The stabilization time typically ranges from 30 min (small integrated LED lamps) to 2 or more hours for large SSL luminaires). It can be judged that stability is reached when the variation (maximum - minimum) of at least 3 readings of the light output and electrical power over a period of 30 min, taken 15 minutes apart, is less than 0.5 %.

Electrical measurements including voltage, current, and power were measured using the Everfine Digital Power Meter.

Some graphics were created with Photometric Plus software.

The standard reference of the Goniophotometer system is halogen incandescent lamp, the intensity distribution type is omni-directional, and is traceable to the National Institute of Metrology P.R. China.

The uncertainty of goniophotometer system reported in this document is expended uncertainty is 1.94% with a coverage factor k=2.

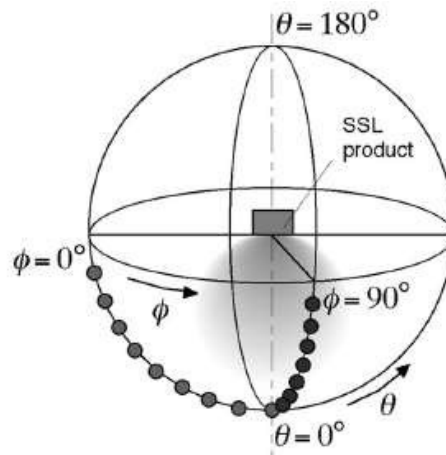
## Color Characteristics Measurements

The color characteristics of SSL products include chromaticity coordinates, correlated color temperature, and color rendering index. These characteristics of SSL products may be spatially non-uniform, and thus, in order that they can be specified accurately, the color quantities shall be measured as values that are spatially average, weighted to intensity, over the angular range where light is intentionally emitted from the SSL product. The color characteristics measurements are using gonio-spectroradiometer.

## Color Spatial Uniformity

The characteristics of SSL products may be spatially non-uniform, the chromaticity coordinate shall be measured at two vertical planes ( $C=0^\circ/180^\circ$  and  $C=90^\circ/270^\circ$ ) and at  $10^\circ$  or less intervals for vertical angle until the light output dropped to below 10% of the peak intensity. The averaged weighted chromaticity coordinate was calculated from these points. The data was then analyzed to check for delta color differences of the  $u'$ ,  $v'$  chromaticity coordinates. The spatial non-uniformity of chromaticity,  $\Delta u'v'$ , is determined as the maximum deviation (distance on the CIE ( $u'$ ,  $v'$ ) diagram) among all measured points from the spatially averaged chromaticity coordinate.

The geometry for the chromaticity measurement using gonio-spectroradiometer is shown as following.



\*\*\* End of Report \*\*\*

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