

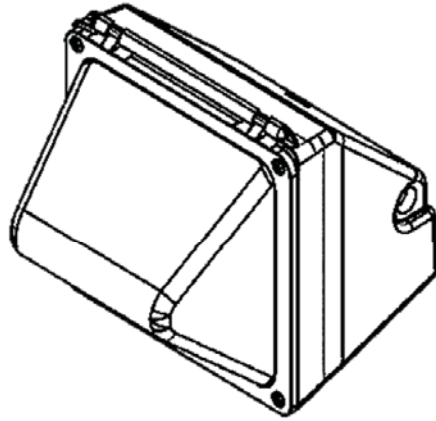
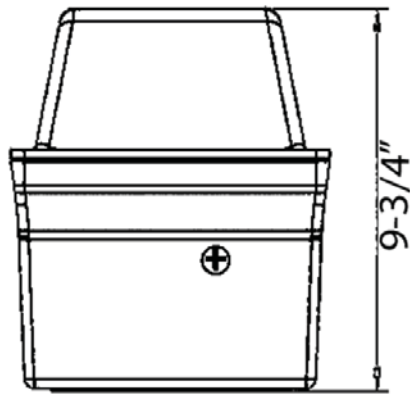
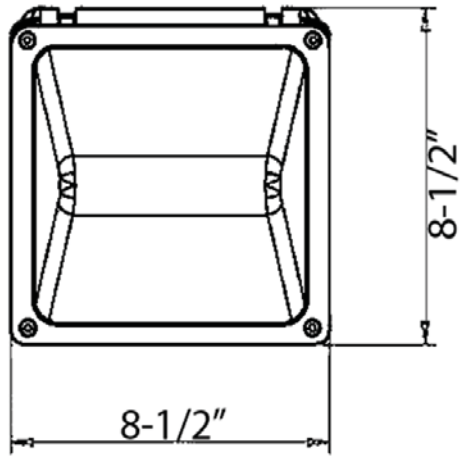


Cat# 71435
LED Classic Small Wall-Pack



Model :		71435
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC
	Input Current	0.25@120VAC, 0.12@277VAC
	Input Power	30W
	Power Factor	PF≥0.9
	Luminance	2500 LM
	Luminous Efficiency	85 LM/W
	CRI	83
	Beam Angle	131°
	Main Structure	Aluminium + Tempered Glass
	Surface	Baking Varnish
LED DRIVER	Output Voltage	40-62VDC
	Output Current	.5A
	Driver Efficiency	85%
LED	LED Type	LUMILED LUXEON 3030
	LED Quantity	36 PCS
	LED Manufacturer	Phillips
	LED Efficacy	140 lm/W
	Color Temperature	5091K
LIFESPAN & ENVIRONMENT	Lifespan	50000 Hrs.
	Warranty	5 Years
	IP Rating	IP54(Nema 3) Dust & Water Tight
	Operating Temperature	-40°F—+131°F
	Storage Temperature, Humidity	-40°F—+176°F , 10—90% RH
SAFETY&EMC	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
OTHERS	Diamension	Pls refer to attached dimension drawing
	Net Weight(Kg)	2.5
	Gross Weight(Kg)	14.5
	Box Size	250*250*273
	Carton Size	510*510*295
	Q'ty / Carton	1

Dimension: 71435





LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd
Queensbury, NY 12804

(Brand Name: Morris)

LED WALLPACKS LIGHT

Model: 71435

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.: HZ1511004li

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: 71435

Luminous Efficacy (Lumens /Watt)	Total Luminous Flux (Lumens)	Power (Watts)	Power Factor
85.0	2506.8	29.50	0.9770
CCT (K)	CRI	Stabilization Time (Light & Power)	BUG (Back, Up, Glare) Rating
5091	83.0	60	B1-U3-G2

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	: 71435
Electrical Ratings	: 120~277VAC, 50/60Hz, 30W
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)	0.252	0.123
Power Factor	0.9770	0.8834
Test Power (W)	29.50	30.13
THD A%	18.42	18.17
Luminous Efficacy (lm/W)	85.0	
Total Luminous Flux (lm)	2506.8	
Color Rendering Index (CRI)	83.0	
R9	6	
Correlated Color Temperature (CCT) (K)	5091	
Chromaticity (Chroma x, Chroma y)	(0.3431, 0.3563)	
Chromaticity (Chroma u, Chroma v)	(0.2082, 0.3245)	
Chromaticity (Chroma u , Chroma v)	(0.2082, 0.4867)	
Duv	0.0032	
Average Beam Angle (°)	131.7	
Center Beam Candle Power (cd)	494	
Spacing Criteria	0.68 (0°-180°)/ 1.56(90°-270°)	
Zonal Lumens in the 0°-60°Zone	49.69%	
Zonal Lumens in the 60°-90°Zone	33.21%	
Zonal Lumens in the 90°-120°Zone	13.94%	
Zonal Lumens in the 120°-180°Zone	3.15%	

Special Color Rendering Indices	
R1	81
R2	88
R3	93
R4	83
R5	82
R6	84
R7	87
R8	67
R9	6
R10	72
R11	82
R12	64
R13	83
R14	96

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

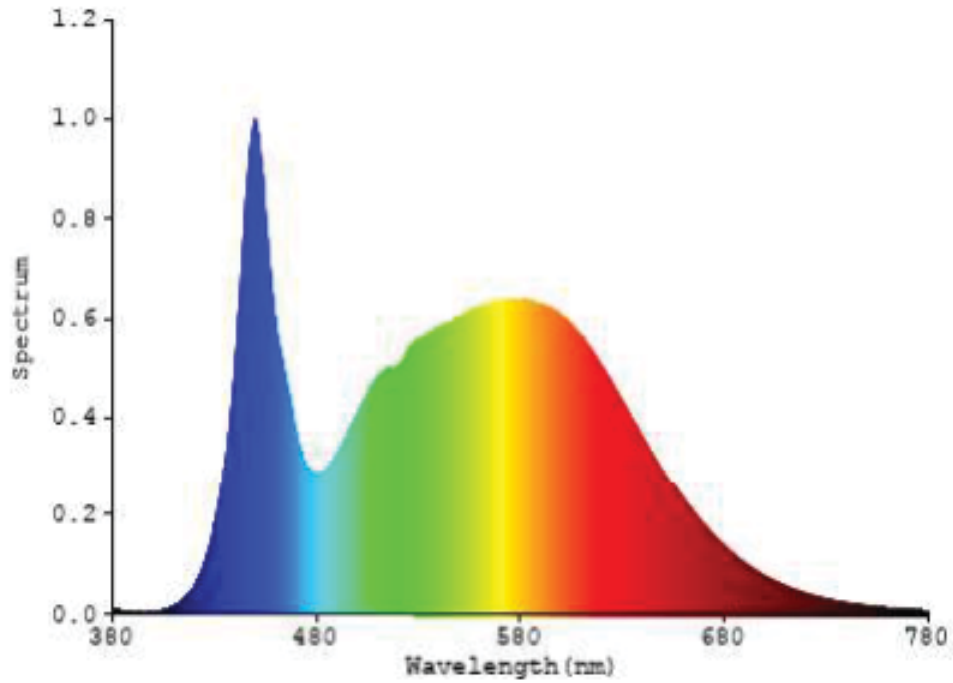


Chart 1: Spectral Power Distribution

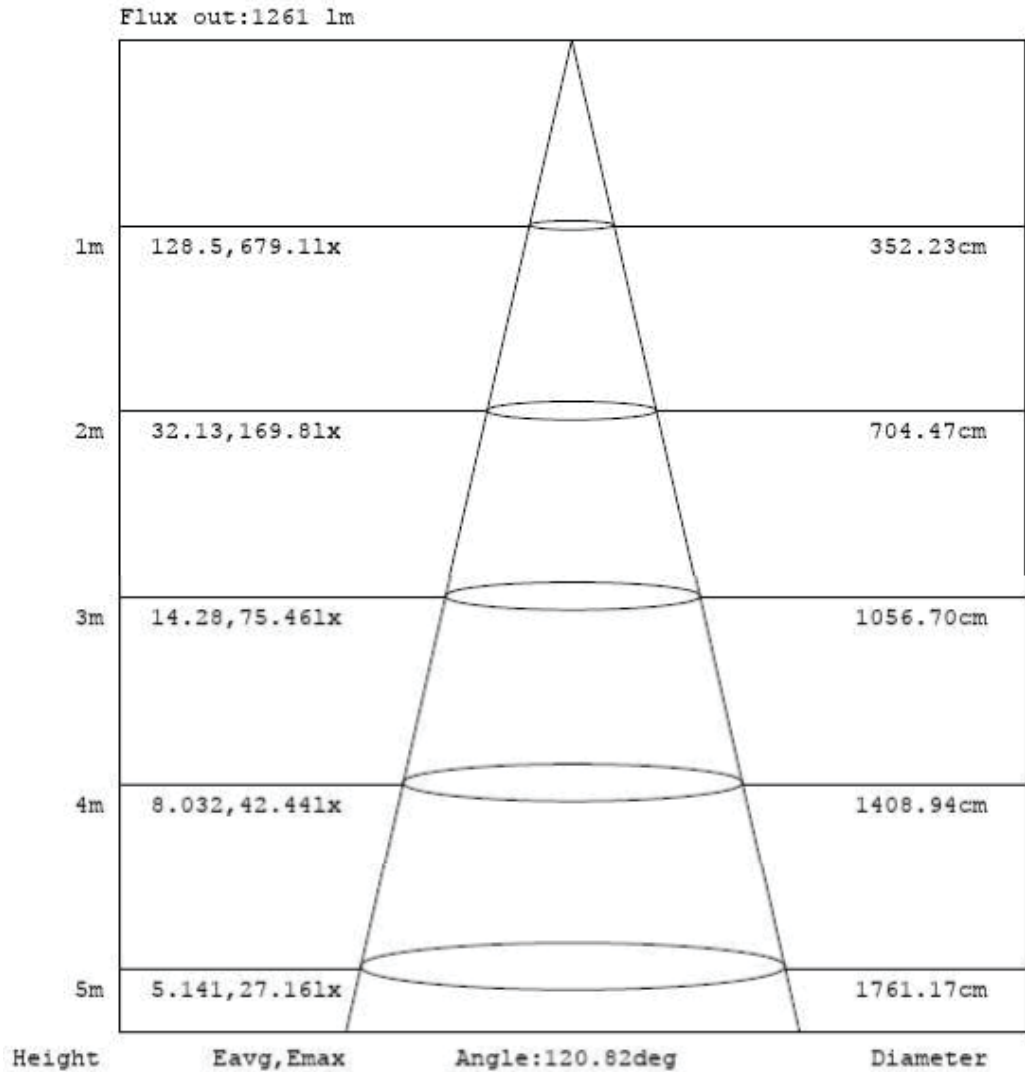
Zonal Lumen Tabulation

$\gamma(^{\circ})$	Lumens	% Total
0- 10	48.979	1.95%
10- 20	149.051	5.95%
20- 30	225.587	9.00%
30- 40	253.568	10.12%
40- 50	268.02	10.69%
50- 60	300.539	11.99%
60- 70	318.493	12.70%
70- 80	288.897	11.52%
80- 90	225.197	8.98%
90-100	168.35	6.72%
100-110	110.819	4.42%
110-120	70.266	2.80%
120-130	42.494	1.70%
130-140	21.397	0.85%
140-150	10.071	0.40%
150-160	4.087	0.16%
160-170	0.968	0.04%
170-180	0.056	0.00%
Total	2506.8	100%

$\gamma(^{\circ})$	Lumens	% Total
0- 60	1245.744	49.69%
60- 90	832.587	33.21%
0-90	2078.331	82.91%
90- 180	428.508	17.09%
0- 180	2506.8	100%

Table 3: Zonal Lumen Data

Illuminance Plots



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

Chart 2: Beam Angle

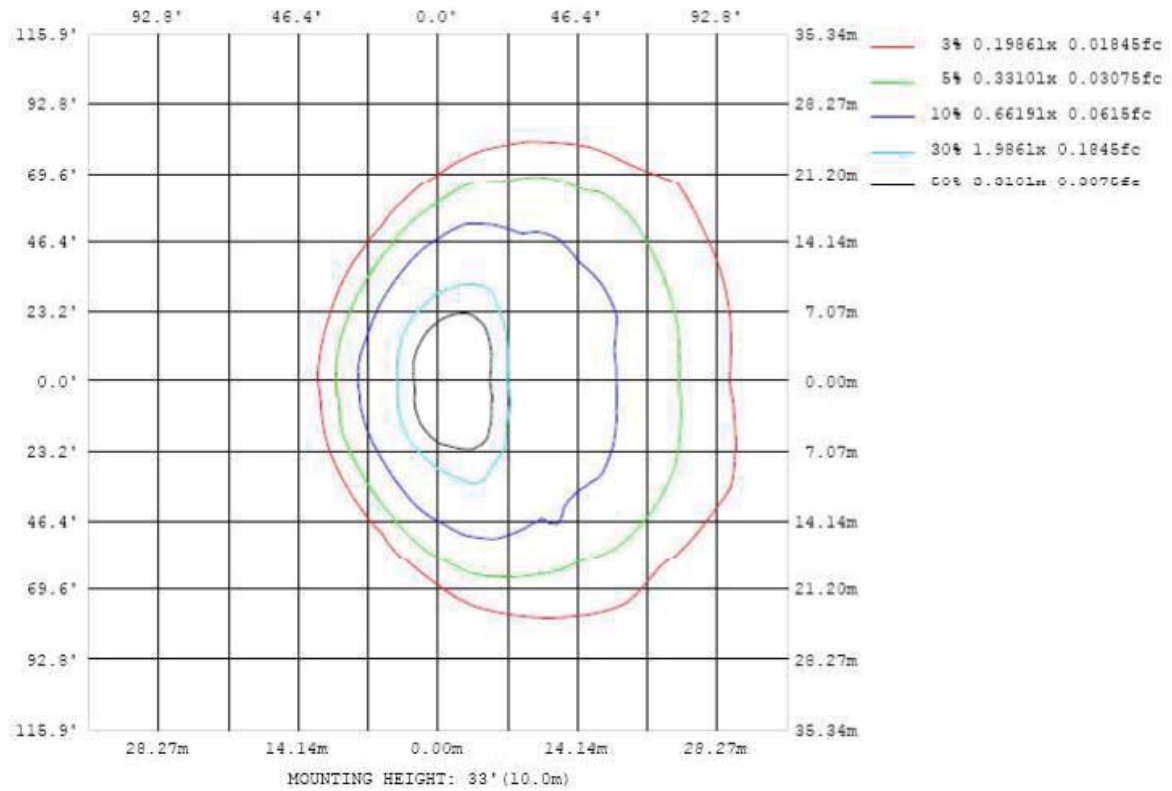


Chart 3: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots

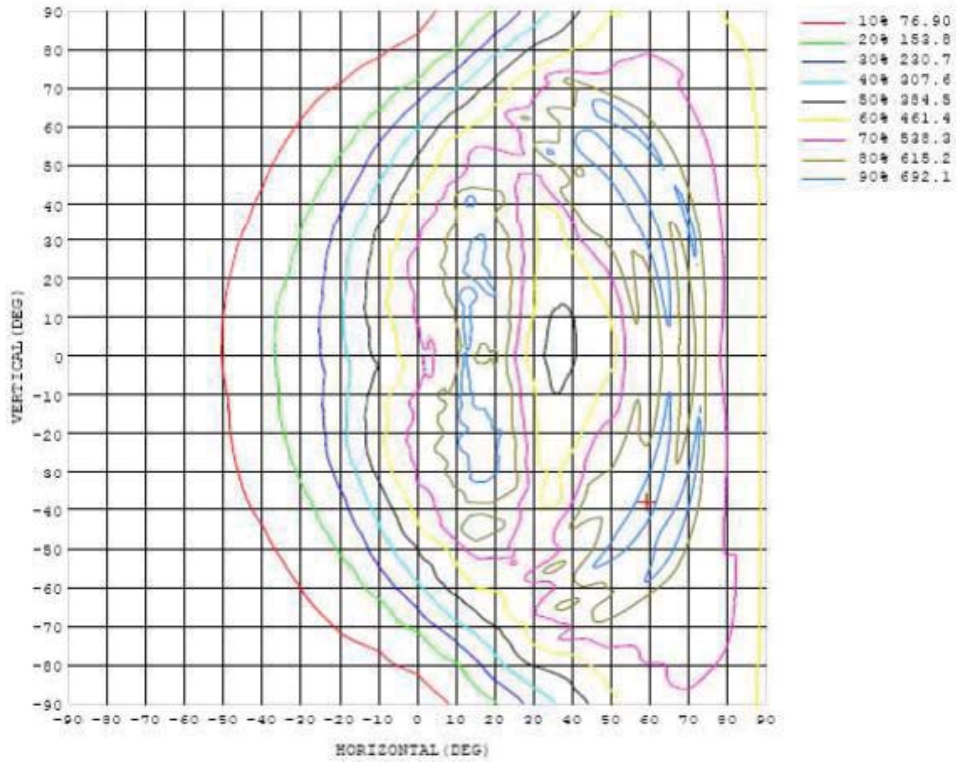


Chart 4: Isocandela Plot

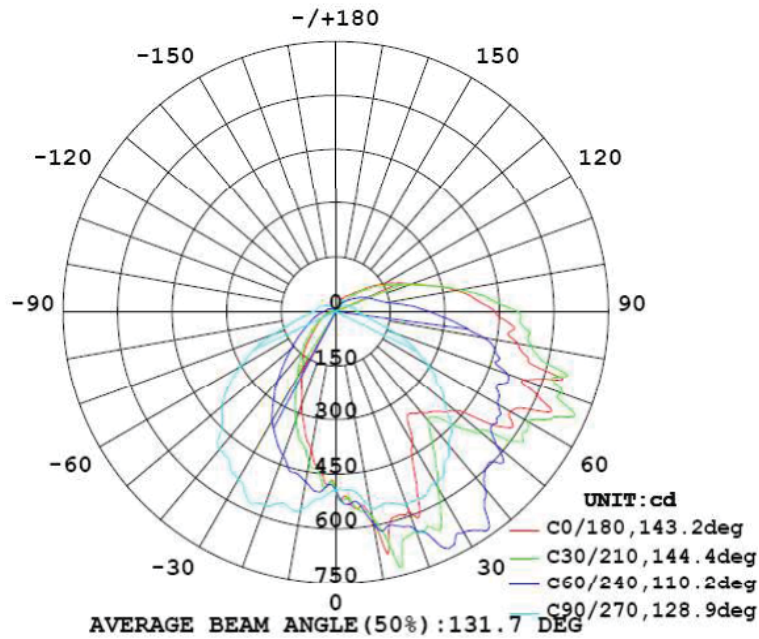


Chart 5: Polar Candela Distribution

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	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494
5	542	540	537	532	523	519	529	539	523	496	492	499	501	487	472	458	453	452	443
10	579	576	574	576	581	603	595	570	593	547	535	526	481	466	441	419	403	399	389
15	592	602	635	708	690	616	610	601	576	546	537	493	483	436	409	379	349	337	333
20	587	600	644	645	674	747	642	617	586	566	536	482	437	408	358	325	298	277	275
25	525	553	629	667	681	695	721	639	614	568	509	465	409	348	305	264	244	230	223
30	424	449	484	561	661	704	704	639	593	546	492	426	352	301	248	222	205	191	183
35	348	372	401	472	588	672	732	645	566	520	437	362	295	244	210	184	176	166	158
40	365	383	391	399	489	651	637	612	558	486	390	312	240	200	173	156	145	135	130
45	392	431	436	433	453	526	594	645	546	451	345	258	198	160	142	129	114	102	99.6
50	429	487	540	518	440	478	576	608	472	388	298	212	163	130	111	99.4	85.8	77.7	76.4
55	558	564	578	629	579	476	540	530	437	337	252	173	129	104	85.8	77.2	67.9	62.9	61.6
60	555	582	630	609	559	525	515	502	404	295	204	133	103	81.9	66.3	61.3	54.3	52.3	52.5
65	655	686	719	695	646	536	488	431	355	236	146	107	84.9	64.6	49.8	44.7	42.1	41.7	43.7
70	552	591	652	663	580	628	501	391	284	179	108	87.3	69.7	50.6	37.4	33.6	31.6	33.7	36.0
75	554	630	673	652	634	518	458	328	219	120	83.5	73.0	57.4	42.4	30.5	25.3	23.0	25.4	27.9
80	508	554	568	546	538	457	412	278	146	87.8	69.9	59.8	46.8	35.6	24.6	18.5	15.3	17.1	19.9
85	493	539	539	522	471	387	327	218	103	68.1	59.6	48.6	38.7	27.8	17.9	11.2	6.57	6.92	8.98
90	438	476	502	501	438	337	258	147	81.8	57.6	52.7	39.7	32.1	21.4	12.3	4.80	0.42	0.43	0.86
95	386	423	438	422	378	293	199	112	69.7	54.2	48.4	35.9	27.8	18.0	9.30	3.12	0.46	0.47	0.89
100	337	372	372	347	300	232	144	91.5	63.1	55.2	43.5	33.9	24.6	16.1	7.55	2.21	0.50	0.51	0.89
105	273	294	294	274	228	174	119	82.6	61.2	48.0	38.4	31.5	22.6	14.1	6.07	1.96	0.53	0.54	0.87
110	223	234	230	216	180	140	105	76.4	53.6	39.5	34.3	29.1	19.9	11.3	4.59	0.99	0.54	0.55	0.81
115	184	191	188	173	149	120	91.3	66.1	45.3	36.8	32.0	24.8	16.6	9.11	3.53	0.68	0.53	0.55	0.74
120	153	156	152	142	123	100.0	77.1	55.9	41.0	34.3	27.8	20.5	13.7	7.10	2.47	0.53	0.53	0.54	0.65
125	122	124	121	112	97.5	81.6	63.4	48.7	36.1	28.7	23.4	16.8	10.8	5.16	1.61	0.52	0.52	0.53	0.59
130	91.4	88.5	82.0	81.3	75.2	63.2	52.0	41.7	30.0	24.1	19.3	13.2	7.66	3.61	0.96	0.50	0.50	0.51	0.56
135	74.6	64.3	60.2	57.6	59.1	50.8	42.8	32.9	23.6	19.3	14.4	9.29	5.23	2.22	0.57	0.47	0.47	0.48	0.56
140	60.5	46.0	45.1	39.6	42.9	40.3	34.2	26.0	17.5	13.7	9.77	6.11	3.35	1.21	0.47	0.48	0.48	0.49	0.57
145	52.2	39.0	37.7	32.1	31.0	31.4	26.8	18.6	11.5	8.60	6.00	3.60	1.72	0.60	0.49	0.49	0.50	0.52	0.58
150	44.8	33.8	30.3	26.3	22.5	21.6	18.0	10.3	6.39	4.74	3.08	1.71	0.76	0.48	0.50	0.51	0.52	0.54	0.60
155	35.9	29.1	23.6	20.8	16.7	12.9	8.42	3.14	2.63	1.89	1.14	0.61	0.47	0.49	0.52	0.53	0.54	0.56	0.61
160	26.8	23.3	18.5	15.0	11.3	7.01	1.98	0.55	0.56	0.47	0.46	0.48	0.49	0.51	0.53	0.55	0.57	0.59	0.61
165	14.6	13.3	10.5	7.81	4.53	1.14	0.46	0.47	0.47	0.48	0.50	0.51	0.52	0.54	0.56	0.57	0.58	0.60	0.61
170	1.15	0.92	0.53	0.48	0.48	0.48	0.48	0.49	0.50	0.51	0.52	0.54	0.55	0.56	0.58	0.58	0.59	0.60	0.61
175	0.55	0.54	0.53	0.53	0.53	0.53	0.54	0.55	0.56	0.57	0.59	0.60	0.61	0.62	0.63	0.64	0.64	0.66	0.59
180	0.57	0.55	0.54	0.54	0.54	0.54	0.54	0.56	0.56	0.57	0.58	0.60	0.60	0.61	0.63	0.64	0.65	0.67	0.57

Table 4: Luminous Intensity Data

Table--2 UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494		
5	446	453	466	486	499	501	495	498	520	552	560	555	547	546	552	558	556		
10	392	405	425	443	447	479	512	510	556	577	570	598	608	604	591	589	591		
15	341	353	374	395	434	460	492	516	549	564	606	615	623	689	753	691	656		
20	286	300	321	357	385	424	458	523	569	589	626	656	757	688	655	655	643		
25	229	239	265	297	339	389	438	511	574	607	640	710	711	729	686	644	592		
30	188	199	213	244	295	351	404	467	538	607	647	723	694	674	588	506	462		
35	161	164	174	199	241	299	367	436	511	594	638	709	659	577	482	419	384		
40	134	140	144	162	196	249	314	395	498	558	679	644	602	503	421	396	391		
45	103	111	118	132	159	201	262	359	440	533	662	663	521	441	447	421	422		
50	78.2	81.7	92.6	107	129	162	219	303	408	502	567	581	494	465	557	516	466		
55	61.0	64.0	68.9	82.0	104	130	176	262	355	465	560	565	355	607	647	626	601		
60	49.2	49.1	54.3	63.8	82.6	104	138	209	304	445	499	525	712	619	687	640	604		
65	37.4	35.9	39.1	48.9	66.5	84.6	108	157	248	374	465	622	613	774	759	786	746		
70	29.4	27.8	30.2	38.8	54.1	71.2	85.6	116	183	306	432	523	642	684	668	647	613		
75	22.2	21.3	24.8	32.4	44.3	60.1	70.0	90.7	126	227	364	497	609	689	681	656	656		
80	15.2	14.3	19.4	26.2	36.6	48.9	58.4	70.0	95.6	157	295	423	509	550	586	573	566		
85	6.98	7.08	12.7	20.3	29.4	39.4	49.7	55.4	74.1	115	223	339	430	510	540	548	541		
90	0.86	1.53	7.24	15.2	24.6	32.0	43.9	49.1	61.2	95.2	160	275	375	467	483	494	469		
95	0.88	1.04	5.11	12.2	21.1	28.7	39.5	50.3	54.3	79.4	126	219	317	385	426	433	416		
100	0.88	0.85	3.65	9.99	18.3	25.6	34.4	48.3	51.6	69.6	106	163	247	315	357	372	367		
105	0.86	0.83	2.55	7.82	15.5	24.1	29.6	42.0	49.0	64.8	93.3	135	184	241	274	294	297		
110	0.80	0.76	1.75	5.70	12.3	21.0	27.8	35.8	45.5	59.1	83.7	115	148	186	215	230	239		
115	0.71	0.68	1.13	4.27	9.35	16.8	25.6	32.3	39.1	52.1	73.6	98.5	127	152	173	187	197		
120	0.63	0.60	0.70	3.05	7.21	13.2	21.3	28.3	34.7	46.2	62.3	83.1	105	126	143	156	164		
125	0.57	0.54	0.53	1.95	5.59	10.2	17.2	23.8	31.0	39.0	51.3	65.4	83.1	98.0	114	126	133		
130	0.54	0.52	0.51	1.14	3.83	7.58	13.2	19.2	24.3	31.9	43.4	53.1	64.1	76.2	77.0	91.8	99.5		
135	0.55	0.53	0.52	0.68	2.35	5.34	9.27	14.1	18.1	24.9	34.6	43.4	51.6	58.4	54.2	69.8	75.6		
140	0.56	0.54	0.54	0.53	1.30	3.28	5.99	9.27	12.8	17.2	27.6	35.3	39.9	39.8	39.9	48.8	56.7		
145	0.57	0.56	0.55	0.55	0.65	1.67	3.49	5.45	8.11	11.0	21.0	28.0	30.8	29.0	34.0	39.1	49.8		
150	0.58	0.57	0.56	0.55	0.55	0.68	1.57	2.69	4.23	5.88	12.2	19.5	21.1	23.6	29.0	33.6	44.8		
155	0.59	0.58	0.57	0.56	0.55	0.53	0.55	0.86	1.38	1.99	3.98	9.66	14.7	19.0	23.4	28.3	37.3		
160	0.60	0.59	0.58	0.56	0.55	0.53	0.52	0.52	0.52	0.52	0.52	3.08	8.42	12.8	17.2	22.2	28.6		
165	0.61	0.59	0.59	0.57	0.56	0.55	0.54	0.54	0.53	0.53	0.54	1.41	5.46	9.19	13.2	16.0			
170	0.61	0.60	0.60	0.59	0.59	0.58	0.57	0.57	0.58	0.58	0.59	0.59	0.60	0.60	0.61	1.60	2.83		
175	0.59	0.58	0.57	0.57	0.57	0.57	0.57	0.57	0.58	0.58	0.59	0.60	0.61	0.62	0.62	0.63	0.64		
180	0.57	0.55	0.54	0.54	0.54	0.54	0.55	0.56	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63	0.64		

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.

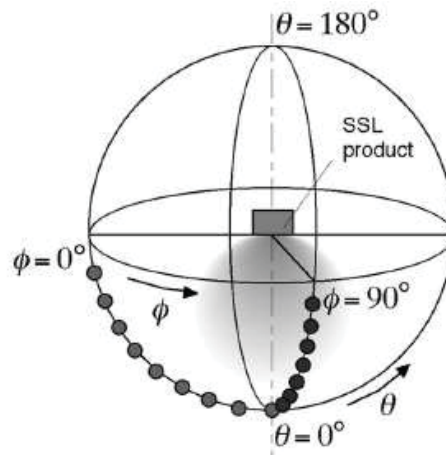
Color Characteristics Measurements

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° 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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