



Catalog Number 71464
UPC Number 60198671464
Description LED Vandal Resistant Canopy Light
60W
Voltage: 120/277



Features

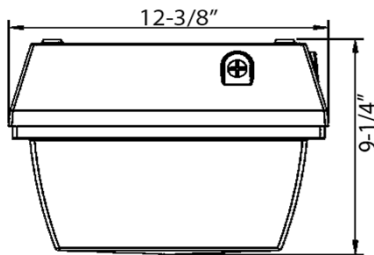
Corrosion Die Cast Aluminum Housing
Prismatic Polycarbonate Lens
Superior Architectural Bronze Powder Coat Finish
Phillips LUMILED LUXEON 3030 LED's
Stainless Steel Hardware
50,000+ Hour Life Expectancy
UL Listed

General

Material: Diecast Aluminum Housing
Lens: Prismatic Polycarbonate Lens
Finish: Bronze Powdercoat
Lamp Type: LED
Reflector: Aluminum
Photocell: Optional

Dimension Information

Length: 12-3/8"
Height: 9-1/4"



Specifications

Temperature Rating: -40F to 131F
Voltage Rating: 120/277
Flammability Rating: UL94V-2
Wattage Rating: 60W
Light Pattern: 129 deg Beam Angle
CRI: 85

Packaging

Box Qty 1

Certifications

cULus Yes
CSA Yes
RoHS Yes
DLC Yes
IP65(Nema 4X) Yes
Warranty 5 Year



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd
Queensbury, NY 12804

Brand Name: Morris

Ceiling light

Model: 71464

Laboratory: Leading Testing Laboratories

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

ReportNo.: HZI5110041g

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

Reviewed by:

Engineer: April Zou
Dec. 08, 2015



Manager: Jim Zhang
Dec. 08, 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: 71464

Luminous Efficacy (Lumens /Watt)	Total Luminous Flux (Lumens)	Power (Watts)	Power Factor
94.1	5701.7	60.58	0.9835
CCT (K)	CRI	Stabilization Time (Light & Power)	BUG (Back, Up, Glare) Rating
5087	84.8	60	B2-U3-G1

Table 1: Executive Data Summary

Test specifications:

Date of Receipt : Nov. 30, 2015

Date of Test : Dec. 03, 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

TABLE OF CONTENT

LM-79-08 Test Report.....	1
Test Summary.....	2
Sample Photos.....	4
TEST RESULTS	5
Spectral Power Distribution	6
Zonal Lumen Tabulation	7
Illuminance Plots.....	8
Luminous Intensity Distribution Plots.....	10
Luminous Intensity Data	11
EQUIPMENT LIST	13
TEST METHODS	13
Seasoning of SSL Product.....	13
Goniophotometer Method	13
Photometric and Electrical Measurements.....	13
Color Characteristics Measurements.....	14
Color Spatial Uniformity	14

Sample Photos



Figure 1- Overview of the sample

Equipment Under Test (EUT)

Name	: Ceiling light
Model	: 71464
Electrical Ratings	: 120~277VAC, 50/60Hz, 60W
Product Description	: 5000K, Fuel Pup Canopy luminaires
Manufacturer	: Morris Products Inc.
Address	: 53 Carey Rd Queensbury, NY 12804

TEST RESULTS

Test ambient temperature was 24.2°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)	0.513	0.248
Power Factor	0.9835	0.9025
Test Power (W)	60.58	61.95
THD A%	14.68	19.86
Luminous Efficacy (lm/W)	94.1	
Total Luminous Flux (lm)	5701.7	
Color Rendering Index (CRI)	84.8	
R9	15	
Correlated Color Temperature (CCT) (K)	5087	
Chromaticity (Chroma x, Chroma y)	(0.3431, 0.3547)	
Chromaticity (Chroma u, Chroma v)	(0.2089, 0.3239)	
Chromaticity (Chroma u , Chroma v)	(0.2089, 0.4859)	
Duv	0.0024	
Average Beam Angle (°)	129.7	
Center Beam Candle Power (cd)	1306	
Spacing Criteria	1.56 (0°-180°)/ 1.49(90°-270°)	
Zonal Lumens in the 0°-60°Zone	71.94%	
Zonal Lumens in the 60°-90°Zone	20.60%	
Zonal Lumens in the 90°-120°Zone	5.53%	
Zonal Lumens in the 120°-180°Zone	1.93%	

Special Color Rendering Indices	
R1	83
R2	90
R3	94
R4	84
R5	84
R6	86
R7	88
R8	70
R9	15
R10	76
R11	84
R12	65
R13	85
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

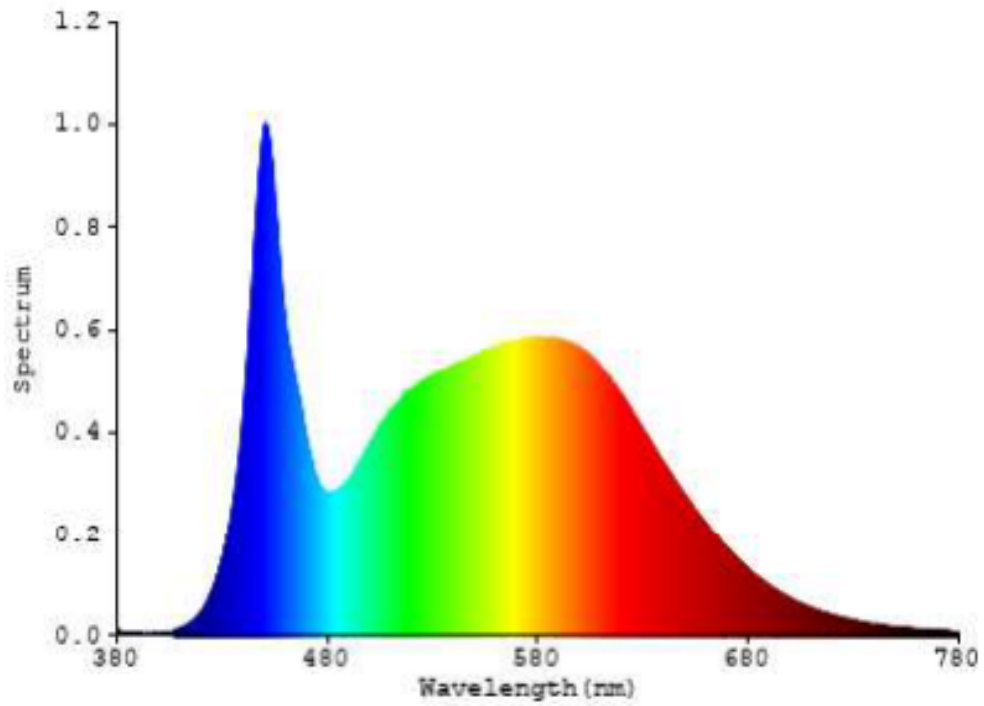


Chart 1: Spectral Power Distribution

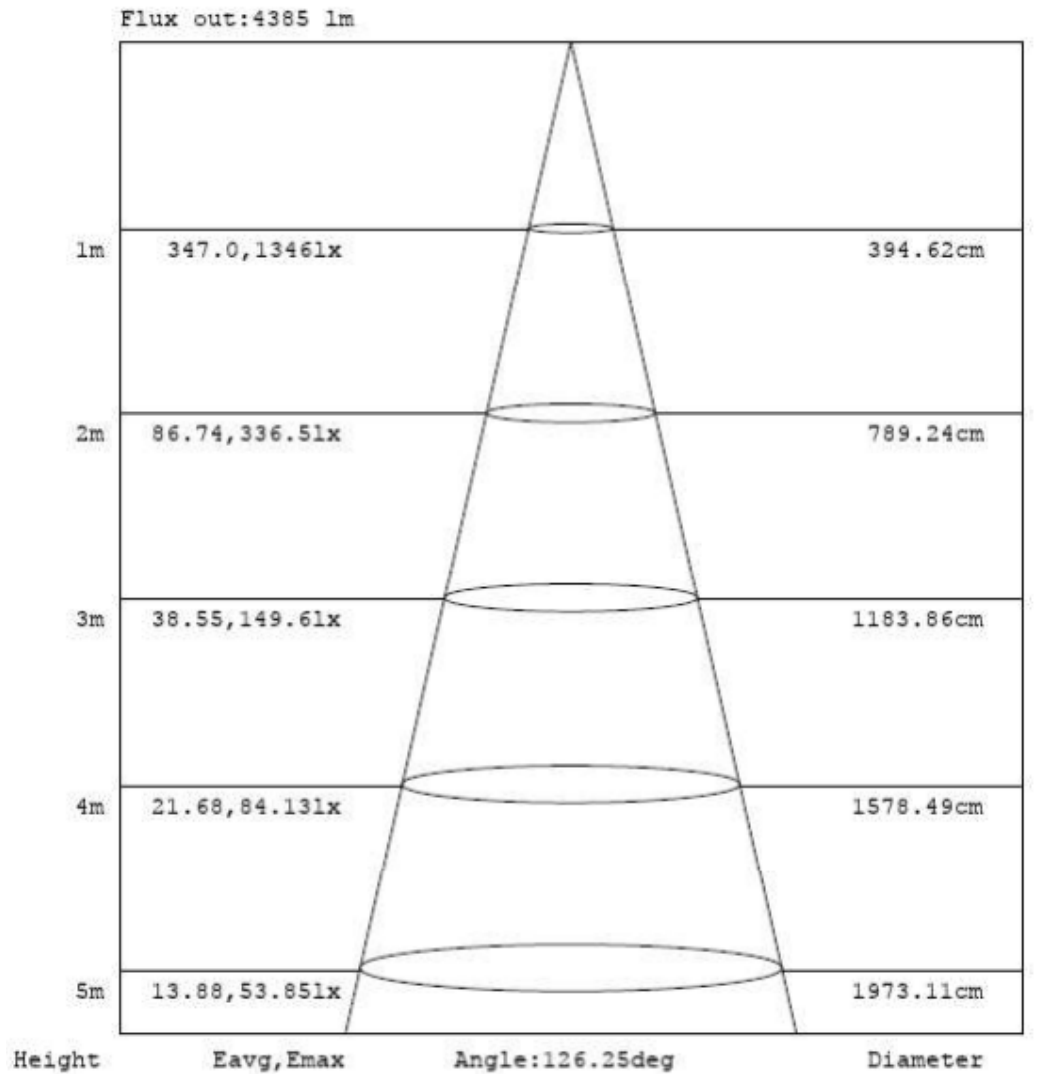
Zonal Lumen Tabulation

$\gamma(^{\circ})$	Lumens	% Total
0- 10	125.793	2.21%
10- 20	379.68	6.66%
20- 30	642.192	11.26%
30- 40	896.755	15.73%
40- 50	1070.059	18.77%
50- 60	987.591	17.32%
60- 70	671.284	11.77%
70- 80	335.907	5.89%
80- 90	167.313	2.93%
90-100	115.223	2.02%
100-110	105.075	1.84%
110-120	94.735	1.66%
120-130	67.875	1.19%
130-140	29.709	0.52%
140-150	10.115	0.18%
150-160	1.917	0.03%
160-170	0.375	0.01%
170-180	0.133	0.00%
Total	5701.7	100%

$\gamma(^{\circ})$	Lumens	% Total
0- 60	0	71.94%
60- 90	1174.504	20.60%
0-90	5276.574	92.54%
90- 180	425.157	7.46%
0- 180	5701.7	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

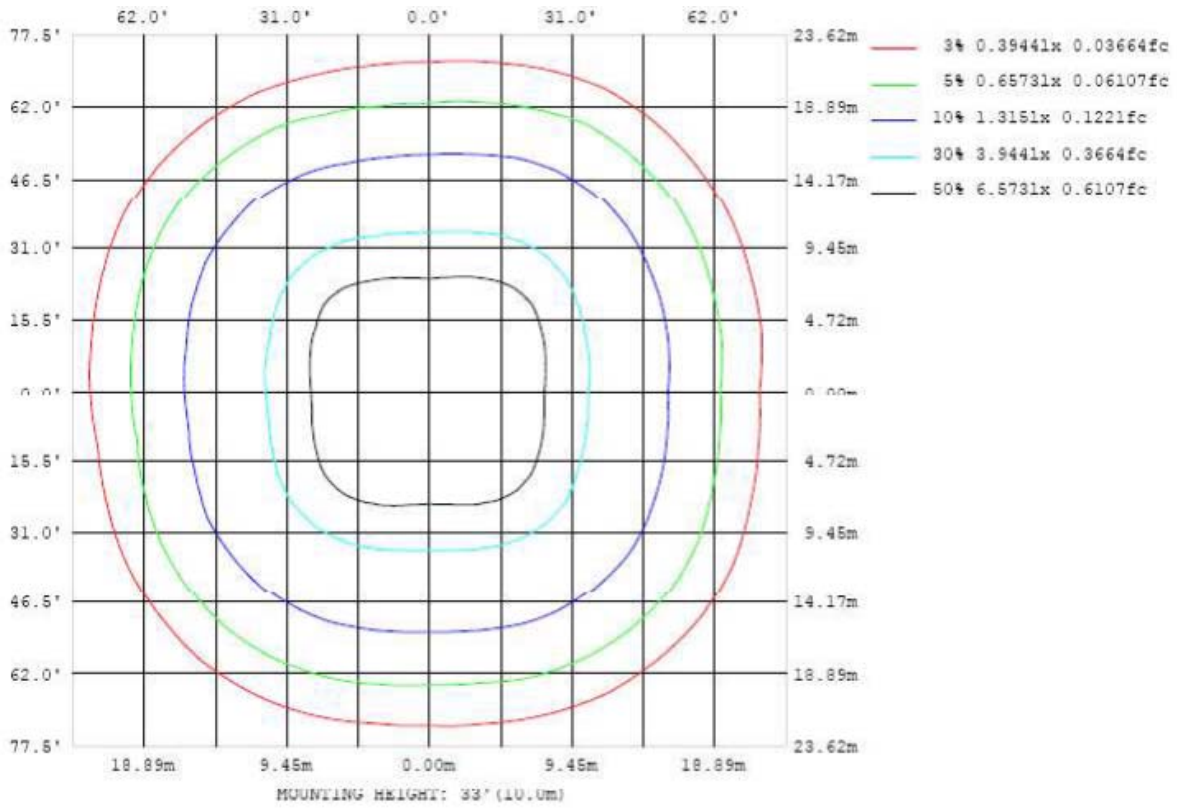


Chart 3: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots

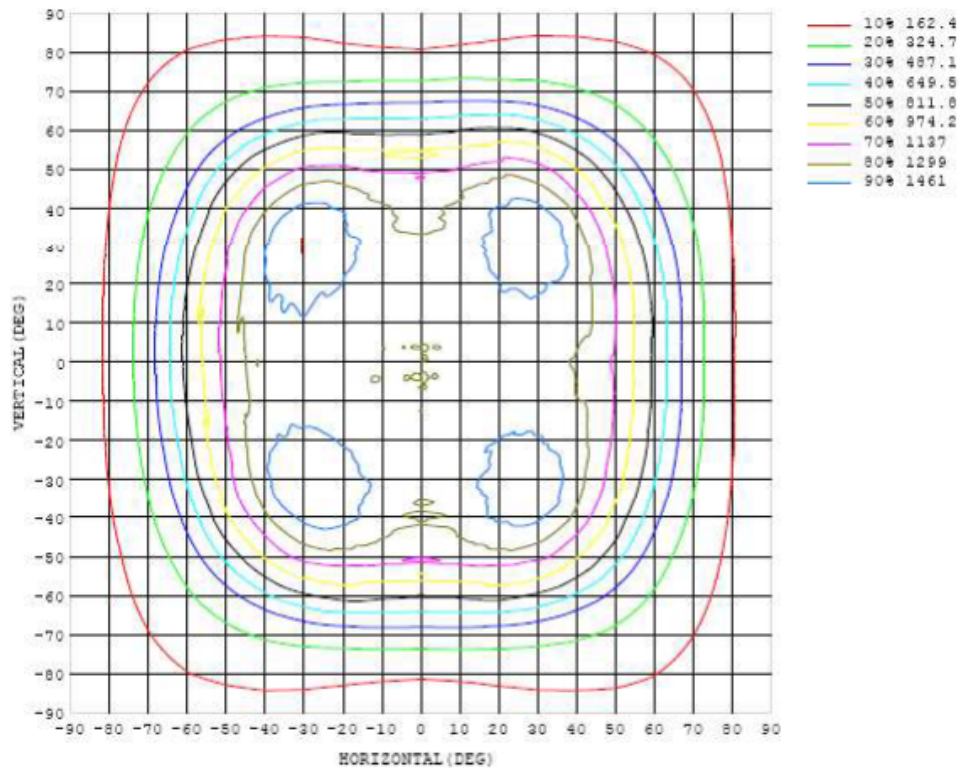


Chart 4: Isocandela Plot

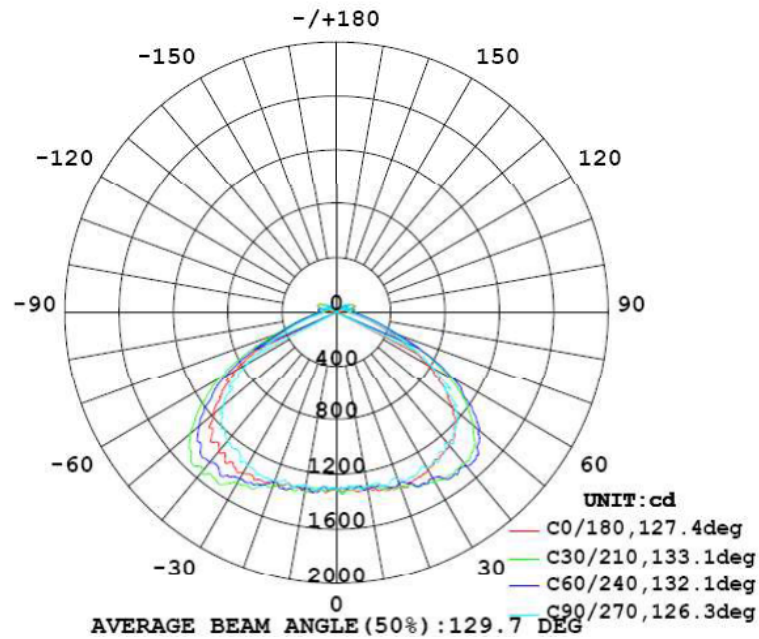


Chart 5: Polar Candela Distribution

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	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306
5	1322	1345	1317	1316	1297	1295	1299	1301	1287	1301	1298	1297	1296	1295	1297	1325	1320	1343	1319
10	1328	1319	1309	1309	1315	1347	1318	1313	1314	1310	1308	1317	1323	1347	1331	1300	1310	1316	1318
15	1346	1337	1335	1363	1352	1319	1329	1333	1350	1335	1353	1320	1322	1316	1339	1333	1322	1318	1326
20	1372	1358	1378	1376	1374	1393	1349	1334	1326	1318	1329	1323	1349	1394	1350	1370	1333	1324	1327
25	1366	1372	1401	1430	1422	1418	1423	1371	1355	1344	1354	1386	1426	1405	1402	1393	1377	1353	1364
30	1352	1364	1399	1446	1475	1475	1419	1353	1340	1331	1351	1376	1435	1481	1481	1438	1402	1362	1375
35	1325	1347	1392	1468	1530	1535	1486	1422	1331	1305	1352	1424	1521	1556	1557	1501	1416	1369	1353
40	1289	1313	1389	1463	1544	1583	1487	1388	1294	1272	1306	1407	1504	1603	1592	1496	1442	1384	1342
45	1224	1256	1332	1429	1544	1546	1483	1353	1269	1233	1286	1375	1495	1569	1604	1487	1398	1293	1305
50	1121	1156	1207	1311	1426	1423	1371	1273	1203	1153	1205	1266	1372	1442	1440	1373	1252	1192	1177
55	955	992	1061	1149	1223	1220	1191	1075	983	980	996	1086	1210	1228	1231	1177	1095	1017	1027
60	781	809	878	965	1007	1018	988	935	845	806	850	942	979	1024	1005	984	912	832	846
65	565	597	649	722	760	765	743	691	634	610	626	700	746	773	755	720	658	610	623
70	393	418	439	478	499	496	481	454	436	420	440	456	481	494	491	473	448	428	433
75	268	285	301	331	350	348	333	315	301	291	301	312	334	348	341	326	302	290	297
80	170	189	208	232	244	241	228	212	196	185	196	210	228	240	236	225	205	188	190
85	110	127	149	166	173	170	162	148	128	118	129	147	161	169	167	162	145	124	120
90	88.3	100	120	134	137	134	130	117	97.2	91.4	99.1	118	131	136	136	133	117	98.6	93.1
95	82.3	86.5	97.2	119	129	129	130	116	96.4	91.9	97.7	117	133	133	131	123	102	92.7	93.6
100	35.1	38.3	65.0	68.2	89.5	116	130	120	106	104	107	120	129	112	81.1	52.0	52.6	32.2	20.0
105	129	99.8	126	125	76.8	80.9	96.6	99.4	103	104	102	97.0	91.3	73.2	79.5	143	121	123	137
110	137	103	125	144	122	82.9	59.6	47.8	57.1	59.1	54.7	42.3	51.1	86.8	132	148	118	127	144
115	130	97.4	115	126	127	124	85.6	54.7	49.1	46.8	50.4	55.1	84.0	124	128	130	107	119	139
120	104	77.2	87.8	98.5	104	109	94.0	98.0	93.7	92.4	94.4	96.4	86.7	102	102	99.4	77.5	92.1	111
125	76.3	55.3	60.0	71.9	79.4	74.2	81.4	96.4	101	102	98.9	92.0	75.8	67.9	76.1	70.5	50.8	65.5	81.0
130	38.7	38.5	33.3	46.6	47.5	50.2	67.1	80.1	83.3	85.2	81.4	75.2	61.0	45.4	42.7	45.2	31.2	41.3	18.2
135	24.8	24.8	16.3	18.9	24.2	38.4	51.1	59.6	63.5	65.1	61.7	55.8	47.1	35.7	22.5	14.9	15.3	27.0	29.6
140	6.06	5.25	1.53	1.40	17.4	29.4	39.5	44.6	48.2	49.1	47.0	42.6	37.4	27.7	16.5	1.44	1.45	4.07	9.04
145	1.49	1.30	1.41	1.39	6.89	20.6	28.2	33.1	35.9	36.8	35.5	32.0	26.9	19.6	7.04	1.32	1.37	1.41	1.53
150	1.40	1.41	1.37	1.36	1.33	4.02	16.6	20.9	23.5	24.4	23.4	20.5	16.0	5.87	1.29	1.28	1.20	1.35	1.50
155	1.33	1.36	1.24	1.32	1.27	1.24	1.27	6.34	11.0	11.8	11.1	6.95	1.28	1.26	1.27	1.27	1.18	1.32	1.45
160	1.30	1.32	1.31	1.22	1.25	1.21	1.19	1.19	1.16	1.13	1.15	1.20	1.23	1.26	1.27	1.20	1.29	1.32	1.47
165	1.31	1.32	1.33	1.33	1.23	1.17	1.17	1.15	1.11	1.10	1.14	1.21	1.25	1.25	1.26	1.33	1.35	1.33	1.45
170	1.34	1.34	1.34	1.33	1.30	1.20	1.14	1.10	1.13	1.10	1.11	1.19	1.25	1.32	1.35	1.35	1.35	1.35	1.49
175	1.47	1.47	1.46	1.45	1.45	1.38	1.34	1.33	1.30	1.25	1.33	1.38	1.40	1.43	1.45	1.47	1.47	1.47	1.52
180	1.44	1.48	1.49	1.52	1.52	1.51	1.50	1.47	1.45	1.44	1.43	1.44	1.47	1.51	1.49	1.43	1.43	1.40	1.45

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	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306		
5	1313	1313	1314	1303	1303	1301	1310	1324	1321	1314	1316	1316	1296	1298	1312	1315	1305		
10	1315	1297	1351	1360	1334	1311	1332	1325	1309	1323	1329	1314	1331	1363	1336	1309	1323		
15	1319	1350	1352	1339	1330	1351	1340	1343	1323	1339	1341	1357	1337	1341	1348	1364	1340		
20	1335	1376	1367	1378	1380	1337	1361	1352	1329	1337	1359	1335	1397	1393	1376	1389	1367		
25	1368	1391	1442	1406	1419	1404	1384	1353	1329	1347	1380	1402	1418	1413	1446	1398	1374		
30	1392	1437	1454	1484	1479	1421	1369	1337	1318	1331	1371	1412	1485	1477	1444	1432	1375		
35	1389	1455	1531	1577	1536	1480	1366	1284	1257	1294	1374	1466	1536	1545	1491	1407	1342		
40	1407	1451	1538	1600	1569	1454	1359	1283	1251	1303	1382	1472	1568	1574	1488	1419	1337		
45	1337	1427	1513	1591	1562	1411	1304	1236	1201	1260	1336	1444	1548	1536	1452	1360	1300		
50	1220	1288	1409	1458	1438	1320	1197	1106	1081	1130	1256	1363	1445	1421	1342	1227	1167		
55	1072	1131	1217	1236	1192	1126	1010	988	964	1026	1050	1189	1225	1208	1146	1062	1005		
60	899	934	1014	1005	1008	934	831	779	768	809	886	986	1024	990	951	874	833		
65	651	700	756	756	738	683	603	578	566	607	647	727	751	728	694	647	614		
70	454	460	485	486	471	447	411	399	390	415	436	467	477	472	460	436	425		
75	310	318	336	341	333	311	285	273	265	286	299	324	334	331	318	303	295		
80	205	218	232	238	233	217	195	181	171	189	206	227	234	232	222	208	195		
85	138	155	166	168	166	158	141	121	111	128	149	162	165	165	159	150	130		
90	105	124	133	135	135	131	113	95.3	89.4	100	118	131	132	132	130	120	99.5		
95	98.8	109	122	130	133	135	115	97.3	93.2	101	118	131	127	124	119	105	92.4		
100	27.1	47.5	69.8	95.5	120	131	118	108	107	111	121	128	109	82.4	57.8	42.1	20.8		
105	107	135	116	79.0	84.6	95.0	97.5	102	106	104	98.3	92.1	77.6	81.9	136	114	115		
110	109	135	149	116	76.7	54.0	46.2	57.0	60.2	55.9	44.7	55.5	87.9	130	145	112	124		
115	104	125	132	128	112	70.7	47.9	43.3	42.8	48.3	51.2	84.0	124	126	129	103	122		
120	81.1	95.4	102	103	100	82.7	85.2	83.6	84.3	88.4	90.2	90.1	104	102	101	78.2	102		
125	57.5	65.4	74.1	75.9	64.6	74.1	89.8	96.1	99.6	97.6	90.3	72.8	70.9	78.5	72.5	52.8	75.4		
130	35.8	35.1	48.5	43.9	46.2	61.2	73.7	79.9	83.0	81.2	76.1	61.1	44.0	47.8	46.3	32.5	28.4		
135	27.4	18.6	20.1	25.1	37.8	47.3	55.2	61.1	63.7	61.2	56.7	48.3	36.3	21.9	16.4	20.1	29.5		
140	6.35	1.50	1.50	19.0	29.1	36.7	41.5	45.7	47.5	45.7	42.1	37.0	28.4	16.2	1.47	3.58	8.65		
145	1.39	1.51	1.51	7.40	19.9	25.8	30.1	33.2	34.5	33.0	30.1	26.1	19.1	1.41	1.45	1.44	1.50		
150	1.50	1.49	1.49	1.47	3.26	15.3	19.7	22.2	23.3	22.0	19.5	14.0	1.39	1.41	1.44	1.35	1.47		
155	1.47	1.40	1.48	1.46	1.41	1.38	1.78	8.76	10.9	7.91	1.38	1.38	1.38	1.41	1.43	1.40	1.43		
160	1.48	1.47	1.40	1.46	1.43	1.40	1.38	1.35	1.30	1.33	1.38	1.40	1.39	1.41	1.40	1.45	1.45		
165	1.45	1.47	1.48	1.43	1.42	1.41	1.37	1.32	1.28	1.28	1.33	1.37	1.35	1.36	1.45	1.44	1.42		
170	1.49	1.51	1.53	1.54	1.53	1.47	1.40	1.35	1.32	1.29	1.30	1.34	1.34	1.42	1.47	1.48	1.47		
175	1.51	1.54	1.55	1.56	1.53	1.50	1.45	1.40	1.38	1.35	1.40	1.38	1.38	1.45	1.49	1.49	1.50		
180	1.44	1.48	1.49	1.52	1.52	1.50	1.48	1.46	1.43	1.44	1.42	1.43	1.45	1.48	1.48	1.45	1.44		

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.

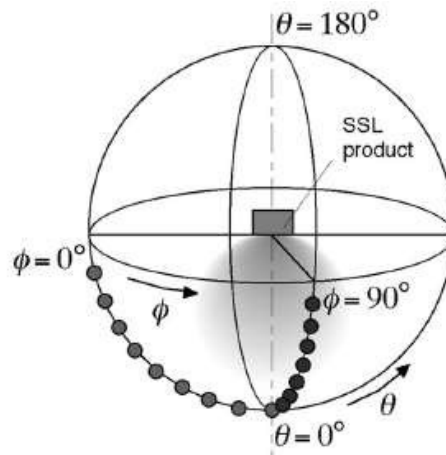
Color Characteristics Measurements

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 ***

This report is considered invalidated without the Special Seal for Inspection of the LTL. This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested. Without written approval of LTL, this test report shall not be copied except in full and published as advertisement