



Catalog Number 71466
UPC Number 60198671466
Description LED Vandal Resistant Canopy Light
80W
Voltage: 120/277



Features

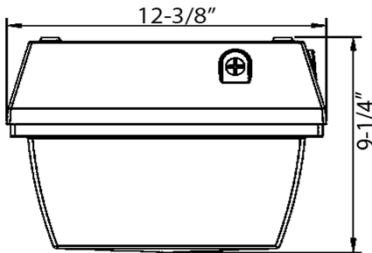
Corrosion Die Cast Aluminum Housing
Prismatic Polycarbonate Lens
Superior Architectural Bronze Powder Coat Finish
Phillips LUMILED LUXEON 3030 LED's
Stainless Steel Hardware
50,000+ Hour Life Expectancy
UL Listed

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: 80W
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

Ceiling light

Model: 71466

Laboratory: Leading Testing Laboratories

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

ReportNo.: HZI5110041h

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: 71466

Luminous Efficacy (Lumens /Watt)	Total Luminous Flux (Lumens)	Power (Watts)	Power Factor
89.7	6840.7	76.22	0.9739
CCT (K)	CRI	Stabilization Time (Light & Power)	BUG (Back, Up, Glare) Rating
5080	85.0	60	B2-U3-G2

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

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Sample Photos



Figure 1- Overview of the sample

Equipment Under Test (EUT)

Name	: Ceiling light
Model	: 71466
Electrical Ratings	: 120~277VAC, 50/60Hz, 80W
Product Description	: 5000K, Fuel Pup Canopy luminaires
Manufacturer	: Morris Products Inc.
Address	: 53 Carey Rd Queensbury, NY 12804

TEST RESULTS

Test ambient temperature was 24.3°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)	0.652	0.300
Power Factor	0.9739	0.9279
Test Power (W)	76.22	77.16
THD A%	19.48	18.36
Luminous Efficacy (lm/W)	89.7	
Total Luminous Flux (lm)	6840.7	
Color Rendering Index (CRI)	85.0	
R9	16	
Correlated Color Temperature (CCT) (K)	5080	
Chromaticity (Chroma x, Chroma y)	(0.3433, 0.3547)	
Chromaticity (Chroma u, Chroma v)	(0.2090, 0.3239)	
Chromaticity (Chroma u , Chroma v)	(0.2090, 0.4859)	
Duv	0.0023	
Average Beam Angle (°)	127.3	
Center Beam Candle Power (cd)	1666	
Spacing Criteria	1.47 (0°-180°)/ 1.49(90°-270°)	
Zonal Lumens in the 0°-60°Zone	71.76%	
Zonal Lumens in the 60°-90°Zone	20.61%	
Zonal Lumens in the 90°-120°Zone	5.66%	
Zonal Lumens in the 120°-180°Zone	1.97%	

Special Color Rendering Indices	
R1	84
R2	90
R3	94
R4	85
R5	85
R6	86
R7	88
R8	70
R9	16
R10	76
R11	84
R12	66
R13	86
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

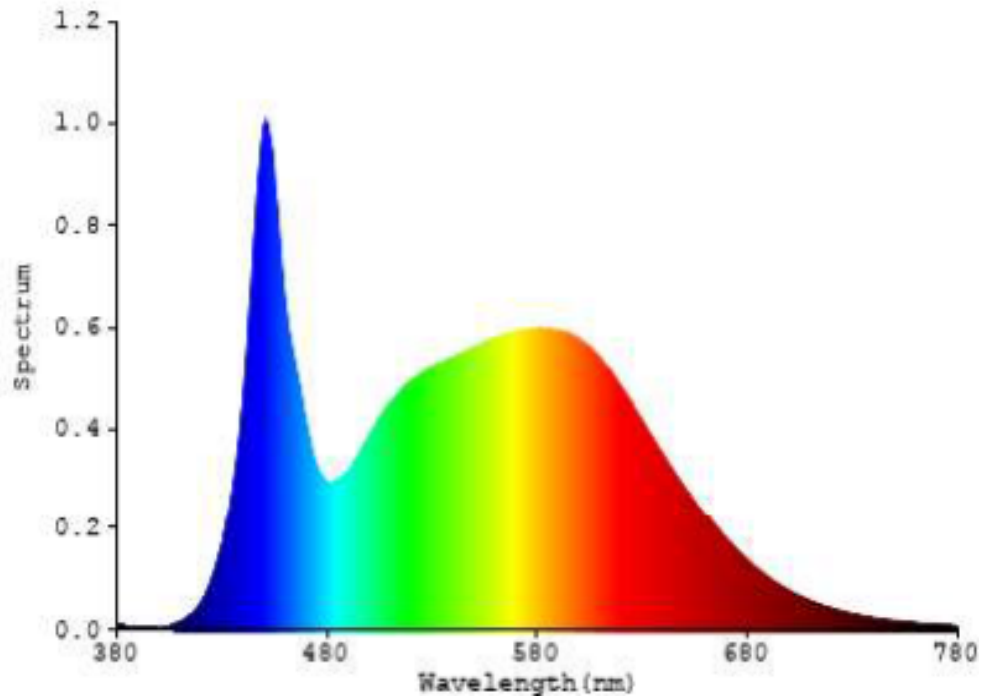


Chart 1: Spectral Power Distribution

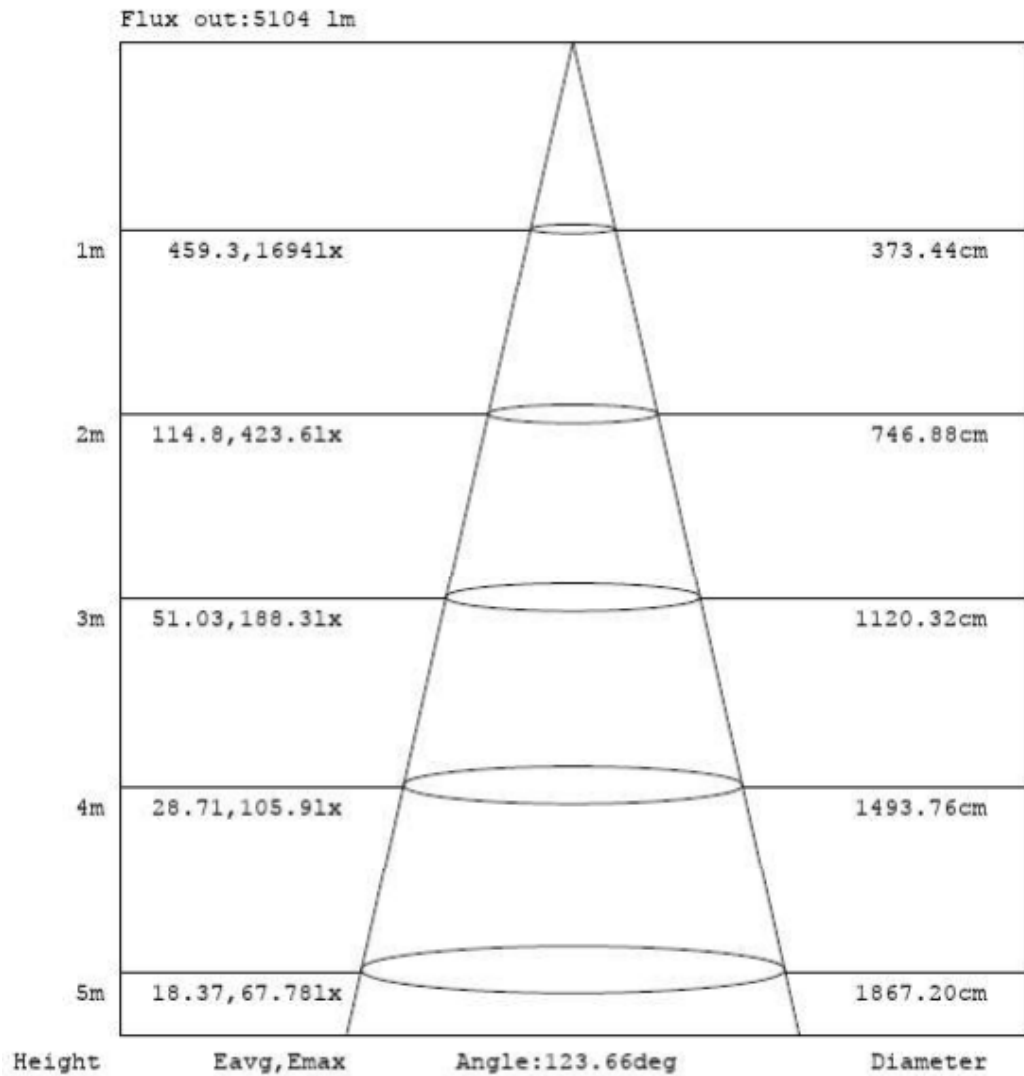
Zonal Lumen Tabulation

$\gamma(^{\circ})$	Lumens	% Total
0- 10	159.72	2.33%
10- 20	480.865	7.03%
20- 30	789.421	11.54%
30- 40	1076.414	15.74%
40- 50	1246.788	18.23%
50- 60	1155.671	16.89%
60- 70	796.988	11.65%
70- 80	407.759	5.96%
80- 90	205.314	3.00%
90-100	142.613	2.08%
100-110	128.845	1.88%
110-120	116.041	1.70%
120-130	83.335	1.22%
130-140	36.017	0.53%
140-150	11.998	0.18%
150-160	2.262	0.03%
160-170	0.462	0.01%
170-180	0.164	0.00%
Total	6840.7	100%

$\gamma(^{\circ})$	Lumens	% Total
0- 60	0	71.76%
60- 90	1410.061	20.61%
0-90	6318.94	92.37%
90- 180	521.737	7.63%
0- 180	6840.7	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

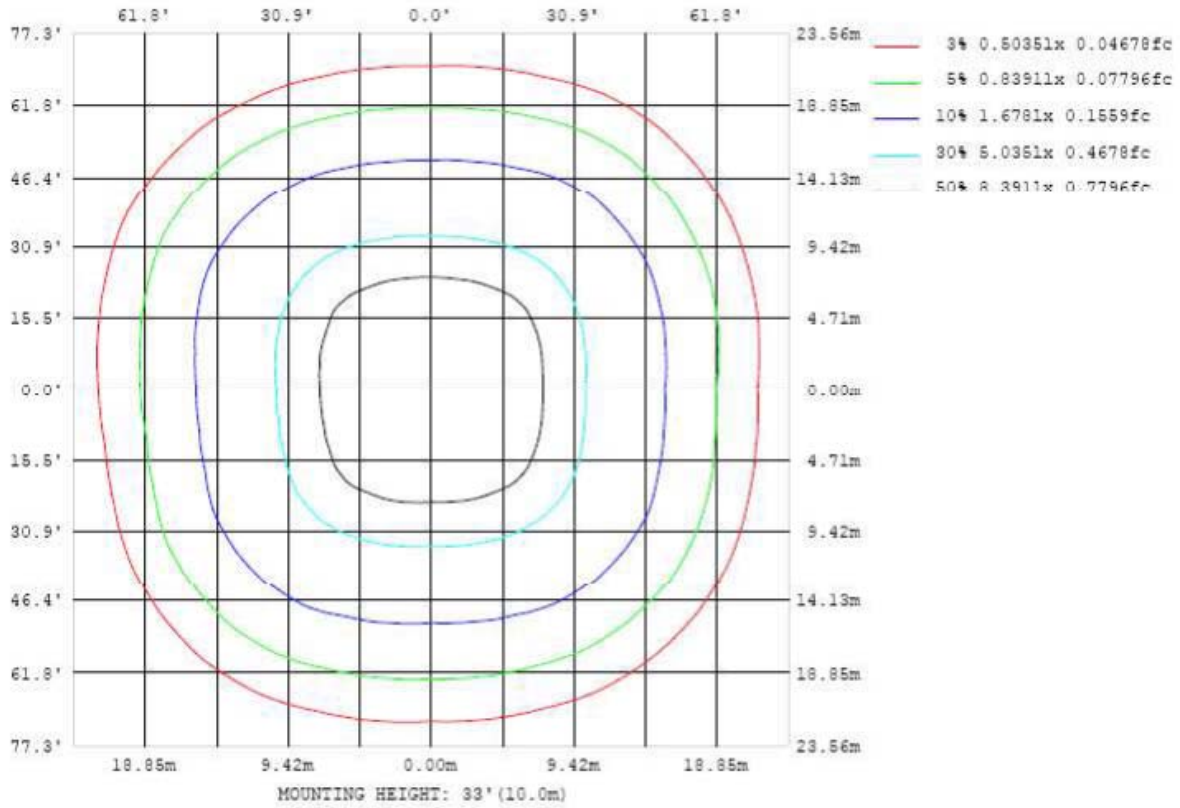


Chart 3: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots

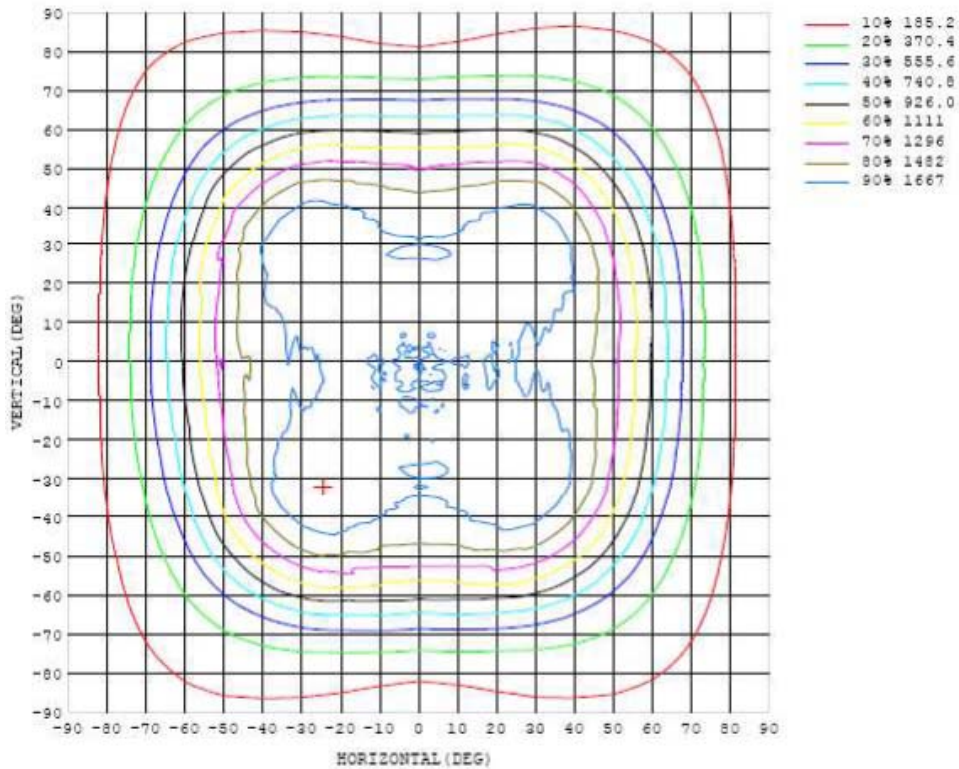


Chart 4: Isocandela Plot

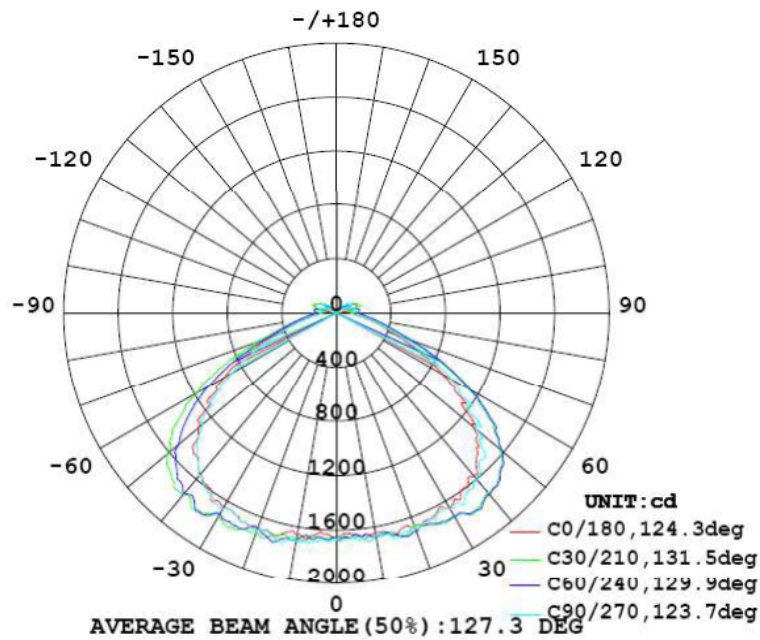


Chart 5: Polar Candela Distribution

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	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666
5	1634	1661	1664	1659	1656	1653	1632	1650	1655	1675	1661	1648	1659	1657	1662	1669	1680	1676	1630
10	1646	1679	1678	1671	1676	1680	1677	1658	1666	1667	1651	1655	1702	1721	1700	1676	1691	1691	1658
15	1680	1688	1692	1690	1660	1682	1690	1674	1692	1718	1692	1700	1694	1686	1684	1707	1708	1722	1693
20	1667	1654	1665	1670	1703	1715	1713	1689	1660	1688	1668	1715	1697	1741	1718	1710	1723	1684	1692
25	1661	1661	1696	1717	1731	1728	1710	1709	1661	1673	1677	1711	1743	1750	1750	1720	1705	1675	1683
30	1653	1671	1674	1729	1773	1764	1731	1675	1663	1668	1699	1709	1745	1775	1778	1725	1676	1659	1648
35	1594	1632	1704	1779	1812	1807	1778	1741	1669	1643	1689	1762	1814	1824	1811	1780	1689	1621	1599
40	1570	1588	1643	1729	1828	1824	1746	1666	1627	1605	1651	1709	1771	1859	1817	1718	1637	1578	1553
45	1467	1507	1592	1700	1758	1759	1693	1593	1551	1527	1567	1633	1737	1783	1780	1659	1564	1500	1474
50	1302	1352	1460	1569	1630	1651	1589	1490	1387	1343	1423	1517	1634	1678	1665	1563	1427	1319	1319
55	1161	1107	1210	1309	1427	1440	1401	1352	1221	1211	1280	1380	1480	1580	1680	1780	1880	1980	2080
60	899	934	1032	1114	1184	1184	1134	1054	980	957	1009	1097	1201	1246	1233	1155	1018	945	943
65	678	701	754	830	875	881	855	798	740	717	749	832	921	952	931	880	770	716	722
70	458	480	513	572	601	605	588	551	520	506	532	570	624	646	640	601	535	502	512
75	322	336	358	392	410	412	399	376	363	349	370	390	419	432	427	401	364	340	346
80	207	223	248	276	296	296	287	263	241	225	248	271	292	304	302	281	251	225	224
85	131	146	173	196	209	209	204	185	160	144	165	191	207	213	212	200	177	150	144
90	108	116	139	156	163	164	163	146	125	115	128	151	164	166	167	162	144	121	114
95	101	103	116	145	159	164	168	148	128	121	129	150	166	163	160	150	124	112	114
100	44.2	44.7	75.3	83.7	111	145	165	153	141	137	141	153	160	137	96.9	65.1	66.6	39.6	50.3
105	150	119	152	156	96.1	99.9	119	127	131	134	130	122	109	88.5	98.5	177	145	144	157
110	157	122	151	180	150	99.8	69.7	61.7	73.4	75.8	69.2	55.3	67.5	107	162	183	142	148	166
115	149	116	139	160	158	146	102	72.6	64.9	60.8	65.9	72.4	104	151	159	161	127	139	159
120	121	92.5	106	124	128	125	111	126	123	121	124	124	108	123	128	126	96.6	112	135
125	88.8	65.7	70.6	89.6	94.4	85.9	94.7	118	127	130	126	117	94.4	82.6	93.5	89.3	62.0	79.6	98.9
130	45.4	45.4	38.1	57.2	56.5	57.3	77.5	95.6	103	106	102	95.4	78.0	57.6	54.7	56.2	37.3	50.7	23.1
135	30.5	29.8	19.8	22.6	28.5	45.4	60.1	72.4	79.7	82.9	79.7	72.6	60.7	46.2	29.2	20.4	18.6	30.5	35.5
140	7.74	5.91	3.02	1.70	21.2	35.0	46.4	54.2	59.7	62.1	60.0	54.7	47.1	35.9	22.3	1.80	1.78	5.61	10.6
145	1.78	1.55	1.69	1.67	6.80	23.8	32.8	39.4	43.5	45.2	43.8	39.9	33.7	25.0	11.1	1.62	1.67	1.72	1.85
150	1.68	1.68	1.64	1.65	1.61	4.69	20.0	25.5	29.0	30.5	29.5	26.3	21.0	9.27	1.59	1.57	1.46	1.65	1.81
155	1.60	1.63	1.50	1.60	1.55	1.52	1.57	7.83	13.8	15.8	14.6	6.67	3.06	1.56	1.56	1.56	1.45	1.62	1.76
160	1.58	1.60	1.59	1.48	1.53	1.48	1.46	1.45	1.41	1.39	1.42	1.49	1.52	1.55	1.56	1.48	1.59	1.62	1.78
165	1.59	1.61	1.61	1.62	1.50	1.43	1.43	1.40	1.36	1.35	1.41	1.48	1.54	1.54	1.55	1.64	1.66	1.64	1.77
170	1.63	1.63	1.63	1.62	1.58	1.47	1.40	1.35	1.38	1.36	1.37	1.47	1.54	1.62	1.66	1.67	1.67	1.67	1.83
175	1.79	1.78	1.77	1.76	1.76	1.69	1.65	1.63	1.60	1.55	1.64	1.70	1.73	1.76	1.79	1.81	1.82	1.81	1.86
180	1.77	1.81	1.82	1.87	1.87	1.84	1.84	1.79	1.78	1.71	1.74	1.73	1.80	1.82	1.81	1.78	1.76	1.73	1.77

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	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666	1666		
5	1653	1661	1653	1651	1662	1658	1671	1663	1692	1682	1682	1669	1684	1683	1685	1687	1689		
10	1677	1670	1690	1719	1691	1697	1682	1699	1704	1698	1690	1698	1693	1727	1712	1705	1691		
15	1694	1700	1705	1704	1695	1744	1717	1712	1720	1701	1715	1743	1715	1714	1702	1710	1707		
20	1697	1725	1719	1770	1739	1685	1703	1676	1700	1681	1704	1702	1731	1750	1719	1691	1676		
25	1684	1717	1762	1745	1733	1732	1701	1682	1687	1678	1714	1740	1735	1748	1750	1717	1689		
30	1671	1696	1723	1778	1766	1710	1692	1670	1667	1675	1687	1722	1761	1780	1738	1688	1673		
35	1651	1753	1767	1801	1792	1785	1679	1623	1620	1627	1678	1759	1794	1809	1791	1736	1660		
40	1602	1684	1744	1828	1792	1732	1634	1580	1566	1573	1630	1713	1802	1834	1759	1683	1590		
45	1531	1592	1711	1755	1734	1654	1561	1483	1438	1476	1558	1649	1744	1749	1725	1623	1532		
50	1375	1495	1625	1660	1622	1513	1405	1316	1278	1314	1407	1521	1620	1638	1594	1494	1388		
55	1209	1307	1412	1400	1400	1300	1210	1107	1100	1100	1001	1000	1110	1110	1000	1000	1100		
60	999	1099	1184	1236	1175	1085	986	918	883	912	995	1111	1187	1185	1142	1067	985		
65	759	855	909	922	875	812	722	687	665	692	737	835	894	874	848	809	724		
70	536	576	610	622	596	551	502	471	452	477	517	568	606	605	581	543	509		
75	366	382	403	413	401	380	352	327	315	334	362	393	412	412	398	376	357		
80	242	264	283	290	284	267	246	219	205	228	256	282	298	296	282	261	238		
85	162	185	199	203	200	191	175	147	132	156	183	202	212	210	201	182	157		
90	126	147	157	158	157	155	142	118	108	123	147	162	165	163	158	143	119		
95	118	130	148	156	159	162	145	123	116	126	149	166	162	156	144	129	114		
100	32.6	57.0	85.3	113	143	158	146	134	131	136	148	157	135	102	68.0	53.4	27.0		
105	129	164	145	98.0	103	117	120	125	125	122	118	111	97.2	101	176	140	138		
110	133	164	183	141	95.0	67.8	57.2	70.6	74.0	67.7	54.5	67.5	106	161	184	138	146		
115	126	152	164	157	134	85.7	58.3	51.3	48.7	55.4	61.4	102	146	163	167	126	144		
120	103	121	131	128	120	98.6	108	104	102	107	109	109	125	132	132	96.3	121		
125	72.5	81.3	93.3	93.8	78.6	89.9	112	119	121	118	107	85.0	85.5	97.6	94.4	64.3	90.0		
130	45.6	44.5	60.0	53.4	53.8	73.6	90.4	97.0	99.6	95.9	88.1	69.6	51.4	60.1	60.3	42.2	32.9		
135	32.1	22.2	24.2	28.0	43.0	56.7	67.3	73.5	75.9	72.4	65.2	53.7	40.7	25.1	20.6	26.0	36.2		
140	7.64	1.87	1.83	20.3	32.8	43.9	50.3	54.9	56.5	53.7	48.6	41.0	30.3	17.3	1.79	4.24	10.8		
145	1.68	1.83	1.85	4.72	22.1	30.3	35.4	38.8	40.0	38.1	34.2	28.5	19.5	1.74	1.78	1.76	1.83		
150	1.81	1.81	1.83	1.81	2.59	17.0	22.8	25.6	26.4	24.8	21.7	14.1	1.73	1.74	1.77	1.66	1.80		
155	1.78	1.70	1.81	1.79	1.74	1.72	1.79	7.49	8.11	6.10	1.71	1.72	1.72	1.75	1.77	1.72	1.76		
160	1.80	1.79	1.71	1.79	1.76	1.74	1.71	1.67	1.62	1.66	1.72	1.75	1.73	1.75	1.74	1.80	1.79		
165	1.78	1.79	1.80	1.75	1.75	1.74	1.70	1.65	1.60	1.60	1.66	1.71	1.68	1.69	1.80	1.80	1.77		
170	1.83	1.86	1.88	1.89	1.88	1.82	1.73	1.67	1.65	1.61	1.63	1.66	1.67	1.76	1.83	1.85	1.83		
175	1.86	1.90	1.90	1.91	1.87	1.84	1.78	1.73	1.71	1.67	1.73	1.71	1.72	1.80	1.84	1.84	1.86		
180	1.77	1.81	1.83	1.87	1.87	1.85	1.83	1.80	1.78	1.78	1.76	1.77	1.80	1.84	1.83	1.80	1.78		

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.

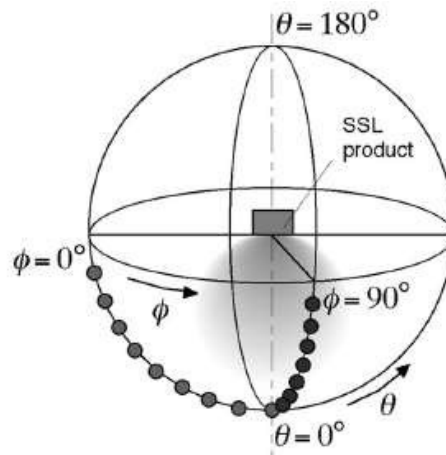
Color Characteristics Measurements

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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