



Report No.: BLC2010026E-E

LM-79-08 Test Report

For

LEDVANCE LLC

(Brand Name: SYLVANIA)

200 Ballardvale St. Wilmington, MA 01887 USA

LED Area Lamp

Model name(s):

LED110HIDRODAREA830MOG

LED110HIDRODAREA840MOG

LED110HIDRODAREA850MOG

Model Different: All construction and rating are the same, except CCT

Test & Report By:

Lily Yang

Engineer: Lily Yang

Date: 2020-11-06

Review By:

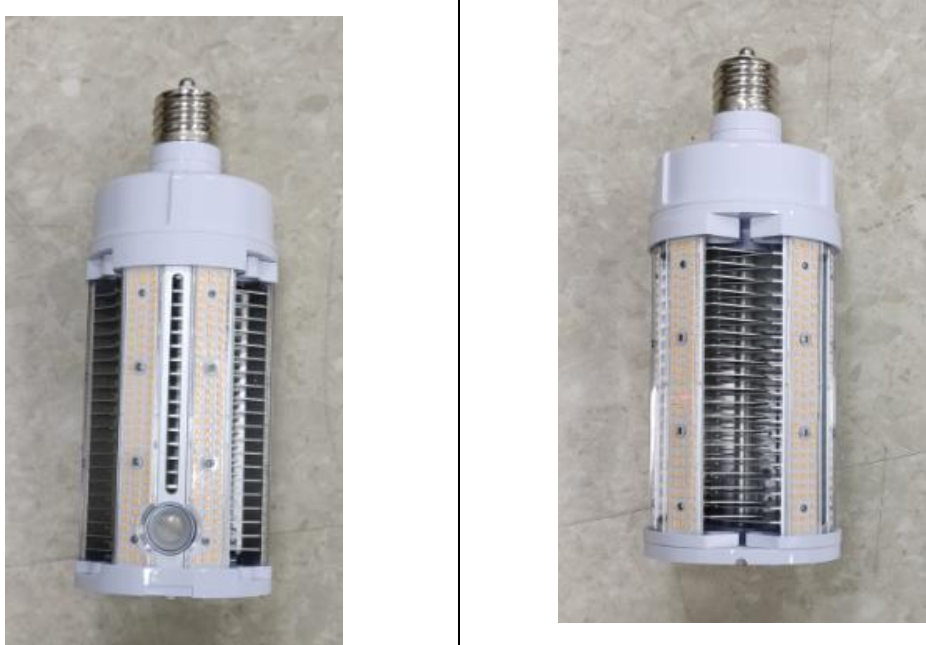
Jason Luo

Manager: Jason Luo



Report No.: BLC2010026E-E

1.1 Product Information:

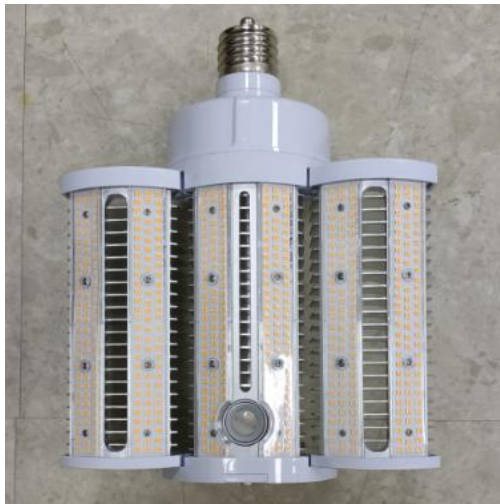
Organization Name	LEDVANCE LLC	
Brand Name	SYLVANIA	
Model Number	LED110HIDRODAREA830MOG LED110HIDRODAREA840MOG LED110HIDRODAREA850MOG	
SKU (if available)	N/A	
Type of Product (for integral lamps, list base type and lamp type)	LED Area Lamp	
Rated Voltage / Frequency	120-277Vac, 50/60 Hz	
Nominal Power	110W	
Rated Stabilized Lamp Lumen	15400 lm (3000K), 16500 lm (4000K/5000K)	
Declared CCT	3000K, 4000K, 5000K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-XX80RA35000H1	
Sample Number	BLC2010026E-E1(3000K,closed), E2(4000K,closed), E3(5000K,closed), E1(3000K,open), E2(4000K,open), E3(5000K,open)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s
Photo		
closed		
		



Report No.: BLC2010026E-E

Certificate#4810.01

open





Report No.: BLC2010026E-E

1.2 Test Specifications:

Date of Receipt	2020-11-02
Date of Test	2020-11-04
Test item	<ol style="list-style-type: none">1. Total Luminous Flux2. Luminous Distribution Intensity3. Luminous Efficacy4. Correlated Color Temperature5. Color Rendering Index6. Chromaticity Coordinate7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none">1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources4. CIE 15-2004 Technical Report Colorimetry5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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.



Report No.: BLC2010026E-E

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2020-11-04	Test Ambient:	25.6 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED110HIDRODAREA830MOG (closed)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC201002	120.0	60	0.918	109.53	0.994	7.25
6E-E1	277.0	60	0.428	108.78	0.917	14.37
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	5
Frequency (Hz)	60	R2	92	R10	83
CCT (K)	2927	R3	95	R11	80
Duv	-0.0014	R4	80	R12	74
Chromaticity (x, y)	x=0.4402 y=0.4017	R5	82	R13	84
Chromaticity (u', v')	u(u')=0.2537 v'=0.5209	R6	92	R14	98
Color Rendering Index (CRI)	82	R7	80	R15	73
R9	5	R8	56	--	--
Rf	85				
Rg	95				
Rcs,h1(%)	-12				

Photometric Measurement – Goniophotometer Method:

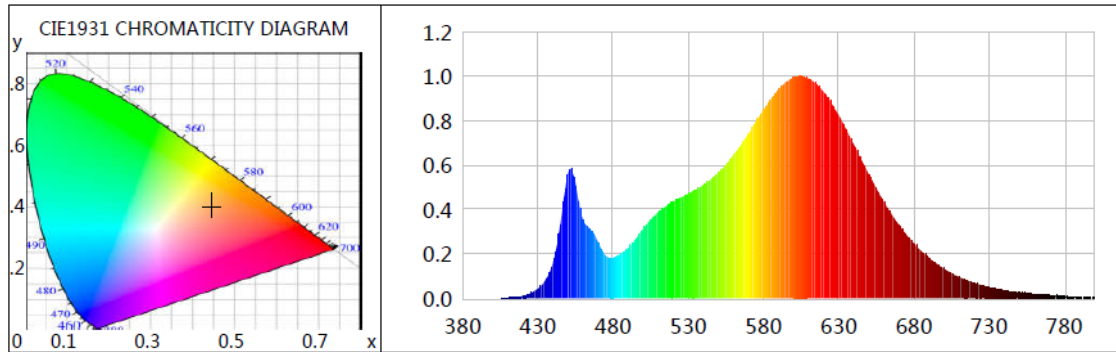
Parameter	Result		Rating	Tolerance
Test Voltage (V)	120.0	277.0	--	--
Frequency (Hz)	60	60	--	--
Total Luminous (lm)	15610.2	15499	15400	Comply -10%
Luminous Efficacy (lm/W)	142.52	142.48	140	Comply -3%
Most worst Luminous/Highest	141.50		--	--
Beam Angle (°)	--	--	--	--
Center Beam Candle Power (cd)	13	--	--	--



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Report No.: BLC2010026E-E

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.0953	525	0.4544	149.9482	670	0.3291	108.6097
385	0.0001	0.0483	530	0.4713	155.5130	675	0.2853	94.1363
390	0.0005	0.1532	535	0.4881	161.0744	680	0.2473	81.5923
395	0.0004	0.1359	540	0.5119	168.9203	685	0.2120	69.9603
400	0.0008	0.2536	545	0.5344	176.3429	690	0.1824	60.1809
405	0.0011	0.3626	550	0.5654	186.5836	695	0.1558	51.4139
410	0.0022	0.7261	555	0.6012	198.3908	700	0.1322	43.6382
415	0.0051	1.6707	560	0.6446	212.7043	705	0.1130	37.3023
420	0.0110	3.6450	565	0.6905	227.8461	710	0.0956	31.5465
425	0.0221	7.2827	570	0.7404	244.3230	715	0.0820	27.0446
430	0.0435	14.3545	575	0.7977	263.2207	720	0.0692	22.8335
435	0.0825	27.2252	580	0.8497	280.3961	725	0.0592	19.5362
440	0.1596	52.6729	585	0.8962	295.7310	730	0.0494	16.3151
445	0.3386	111.7376	590	0.9421	310.8677	735	0.0421	13.9031
450	0.5631	185.8117	595	0.9744	321.5301	740	0.0358	11.8151
455	0.5117	168.8532	600	0.9956	328.5337	745	0.0309	10.2113
460	0.3526	116.3597	605	1.0000	329.9845	750	0.0264	8.7250
465	0.3086	101.8253	610	0.9906	326.8915	755	0.0224	7.3925
470	0.2497	82.4130	615	0.9666	318.9705	760	0.0192	6.3293
475	0.1911	63.0488	620	0.9295	306.7119	765	0.0156	5.1541
480	0.1834	60.5293	625	0.8802	290.4369	770	0.0143	4.7326
485	0.2000	66.0114	630	0.8238	271.8314	775	0.0122	4.0273
490	0.2252	74.3003	635	0.7611	251.1636	780	0.0101	3.3234
495	0.2671	88.1242	640	0.6935	228.8333	785	0.0081	2.6857
500	0.3134	103.4182	645	0.6253	206.3261	790	0.0080	2.6293
505	0.3531	116.5011	650	0.5576	184.0015	795	0.0060	1.9761
510	0.3890	128.3755	655	0.4945	163.1809	800	0.0060	1.9875
515	0.4154	137.0722	660	0.4342	143.2866			
520	0.4362	143.9301	665	0.3794	125.1840			

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Report No.: BLC2010026E-E

TM30

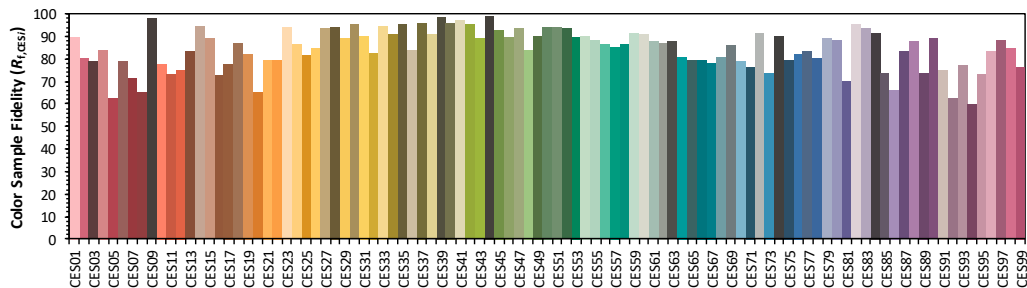
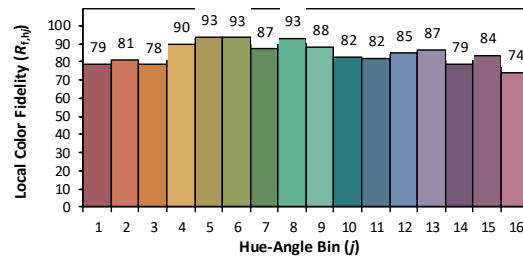
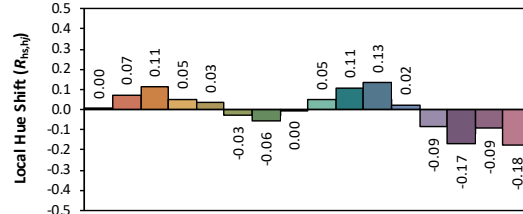
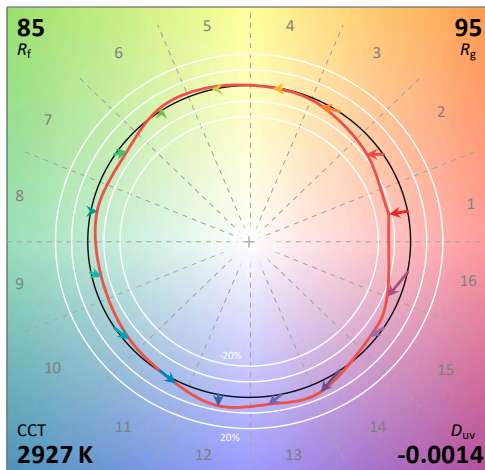
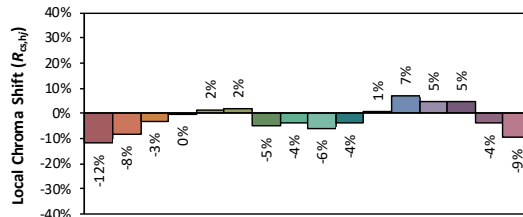
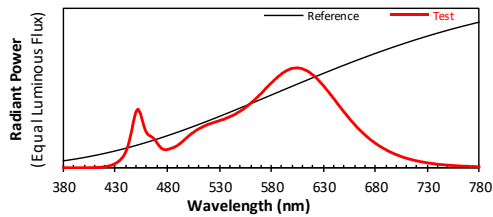
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: LEDVANCE LLC

Date: 2020/11/6

Model: LED110HIDRODAREA830MOG (closed)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4402

y 0.4017

u' 0.2537

v' 0.5209

CIE 13.3-1995
(CRI)

R_a 82

R_g 5

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00

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Report No.: BLC2010026E-E

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	285.0	1.8%	1.8%
0-40	779.1	5%	5%
0-60	2,789.3	17.9%	17.9%
60-90	5,066.5	32.5%	32.5%
70-100	5,404.4	34.6%	34.6%
90-120	5,031.1	32.2%	32.2%
0-90	7,855.8	50.3%	50.3%
90-180	7,755.8	49.7%	49.7%
0-180	15,611.6	100%	100%

Lumens Per Zone

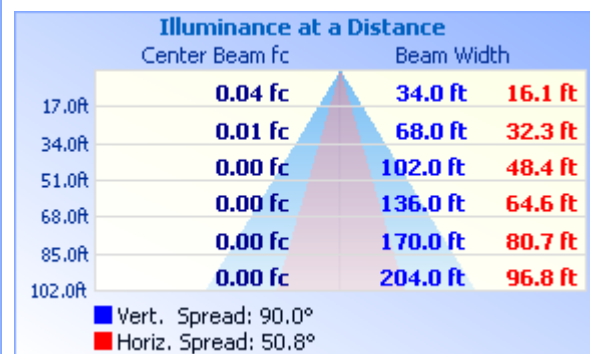
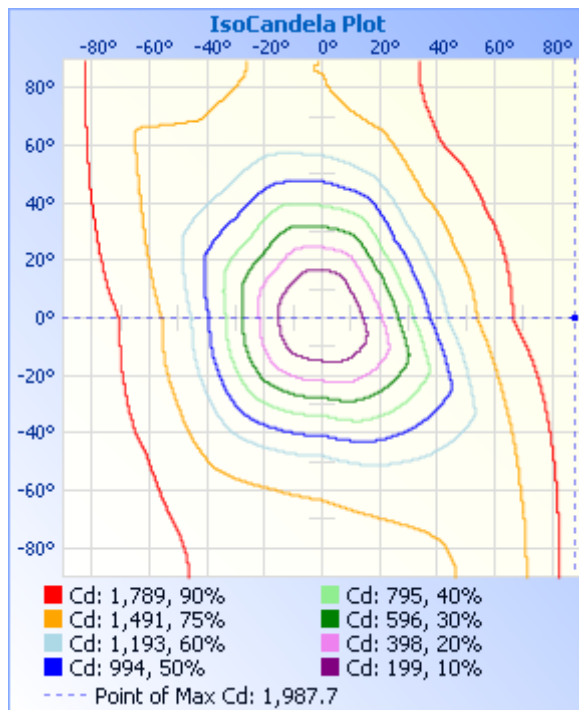
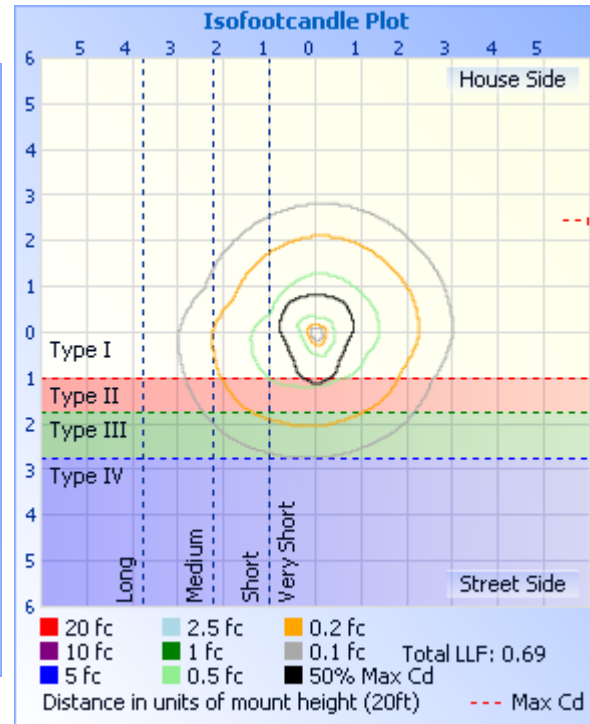
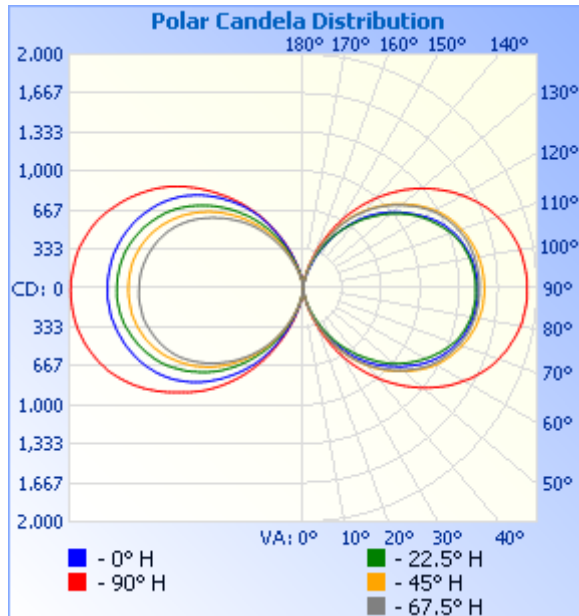
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	5.0	0.0%	90-100	1,836.3	11.8%
10-20	58.2	0.4%	100-110	1,714.2	11%
20-30	221.8	1.4%	110-120	1,480.7	9.5%
30-40	494.1	3.2%	120-130	1,163.8	7.5%
40-50	828.0	5.3%	130-140	811.0	5.2%
50-60	1,182.2	7.6%	140-150	479.6	3.1%
60-70	1,498.4	9.6%	150-160	211.8	1.4%
70-80	1,726.5	11.1%	160-170	54.1	0.3%
80-90	1,841.6	11.8%	170-180	4.4	0%



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Photometric Data



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Report No.: BLC2010026E-E

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
1	15	14	13	10	11	11	14	13	15	14	16	17	19	19	17	16	15
2	20	17	18	14	18	18	19	18	20	20	22	21	27	25	24	23	20
3	25	24	21	19	26	25	24	22	23	24	25	25	32	31	28	28	25
4	29	28	26	22	31	30	29	27	26	28	29	29	38	35	33	32	29
5	34	33	30	25	37	35	35	34	32	33	34	34	45	43	40	37	34
6	39	37	36	31	44	41	41	41	40	39	40	41	53	52	49	44	39
7	44	43	43	38	52	49	49	51	50	48	49	48	64	64	61	52	44
8	54	50	52	48	63	59	60	64	65	60	59	57	77	80	75	61	54
9	64	59	63	59	75	71	72	77	79	71	70	68	92	98	91	72	64
10	74	70	78	72	89	84	84	94	97	84	82	80	110	120	110	85	74
11	87	83	93	88	107	101	99	113	116	101	96	96	129	144	132	98	87
12	102	97	110	106	126	119	117	134	137	118	111	109	151	169	158	114	102
13	119	111	128	126	146	138	136	157	160	136	130	126	176	196	182	133	119
14	137	126	149	146	169	160	156	180	184	156	148	143	201	225	208	150	137
15	158	144	171	169	189	183	178	203	209	176	166	161	227	256	237	169	158
16	178	162	194	191	217	208	199	230	237	198	186	180	256	287	268	190	178
17	198	182	220	214	244	233	223	255	264	221	206	203	286	323	298	213	198
18	220	202	245	238	271	260	249	281	292	245	228	224	317	357	332	236	220
19	244	224	271	264	300	290	274	307	320	270	252	246	350	392	365	260	244
20	268	245	297	293	332	318	301	336	352	298	275	268	381	428	398	287	268
21	295	267	323	320	363	348	329	366	383	325	300	292	416	465	432	311	295
22	321	291	352	346	394	378	358	398	414	352	325	315	449	504	466	337	321
23	345	314	380	373	426	408	389	431	447	380	351	342	483	541	505	366	345
24	373	339	409	403	459	440	424	463	480	408	377	366	518	580	543	392	373
25	400	364	438	433	493	474	455	495	514	439	405	391	555	620	578	422	400
26	427	391	466	463	531	506	488	530	550	467	431	415	595	661	618	453	427
27	454	417	497	494	567	540	521	563	584	496	459	443	633	702	657	486	454
28	481	444	531	528	602	573	557	596	618	524	487	469	670	743	694	517	481

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29	509	472	560	557	637	608	590	629	651	553	516	495	706	782	732	545	509
30	538	497	589	587	671	646	622	661	684	584	547	521	740	822	768	575	538
31	566	522	618	614	706	681	653	693	719	612	574	548	776	861	802	604	566
32	594	549	646	644	743	715	684	728	750	639	599	575	812	899	839	634	594
33	623	576	676	674	776	750	715	759	781	666	624	601	849	934	873	661	623
34	652	603	704	699	810	784	748	789	810	693	649	626	884	971	908	691	652
35	680	629	733	727	843	819	779	820	840	724	678	652	919	1010	943	720	680
36	708	652	761	752	875	856	808	850	869	751	701	677	954	1041	977	749	708
37	734	677	788	782	913	890	838	883	898	779	726	700	987	1075	1009	776	734
38	761	704	818	804	943	922	870	913	926	806	751	727	1020	1108	1042	804	761
39	787	729	840	831	977	955	900	940	955	832	776	751	1055	1144	1077	834	787
40	812	754	868	856	1009	988	930	969	982	862	804	774	1089	1175	1110	862	812
41	838	777	894	881	1044	1020	961	999	1010	890	825	796	1121	1206	1141	890	838
42	860	804	919	906	1076	1054	993	1026	1041	916	852	819	1152	1240	1168	921	860
43	883	827	941	930	1109	1085	1022	1057	1067	941	878	844	1185	1270	1199	944	883
44	909	855	965	954	1140	1118	1050	1084	1094	971	906	865	1216	1304	1229	975	909
45	931	881	992	979	1171	1148	1081	1113	1124	997	929	888	1247	1332	1258	1003	931
46	954	907	1015	1003	1204	1178	1110	1139	1150	1022	954	910	1273	1362	1290	1033	954
47	975	933	1037	1024	1235	1210	1138	1170	1176	1048	978	932	1303	1387	1315	1061	975
48	997	957	1060	1047	1264	1240	1169	1197	1201	1071	1003	955	1333	1416	1342	1089	997
49	1020	982	1083	1070	1294	1271	1196	1223	1226	1096	1028	976	1359	1447	1372	1117	1020
50	1042	1003	1105	1093	1325	1304	1223	1250	1250	1120	1050	997	1388	1473	1401	1142	1042
51	1065	1024	1129	1114	1354	1332	1250	1278	1270	1141	1071	1018	1418	1500	1429	1166	1065
52	1087	1046	1152	1135	1381	1361	1277	1301	1294	1162	1091	1041	1446	1528	1455	1189	1087
53	1108	1067	1174	1156	1410	1392	1306	1326	1316	1185	1113	1061	1476	1557	1479	1211	1108
54	1128	1090	1192	1177	1438	1419	1332	1350	1338	1209	1135	1081	1504	1583	1508	1234	1128
55	1151	1110	1216	1199	1466	1451	1356	1373	1358	1231	1154	1100	1533	1609	1530	1258	1151
56	1172	1130	1237	1217	1492	1477	1380	1397	1377	1250	1173	1122	1559	1633	1555	1280	1172
57	1195	1150	1256	1238	1517	1504	1405	1419	1395	1270	1191	1140	1587	1657	1580	1300	1195
58	1216	1168	1275	1257	1540	1530	1430	1439	1413	1290	1209	1159	1614	1679	1603	1322	1216
59	1233	1188	1294	1275	1563	1559	1453	1459	1429	1311	1228	1176	1637	1697	1622	1342	1233
60	1251	1206	1310	1289	1585	1582	1474	1478	1446	1331	1246	1195	1663	1718	1643	1360	1251

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61	1270	1227	1328	1304	1612	1606	1495	1498	1461	1349	1262	1211	1686	1736	1662	1381	1270
62	1286	1243	1342	1320	1634	1628	1518	1516	1475	1367	1280	1227	1708	1752	1682	1399	1286
63	1303	1261	1357	1333	1654	1652	1537	1532	1491	1383	1298	1241	1730	1770	1700	1416	1303
64	1318	1276	1370	1348	1673	1673	1556	1547	1505	1398	1315	1253	1750	1786	1717	1435	1318
65	1331	1295	1384	1362	1694	1694	1575	1565	1517	1413	1328	1266	1770	1800	1732	1453	1331
66	1346	1309	1397	1373	1712	1713	1591	1582	1531	1425	1341	1280	1790	1816	1750	1469	1346
67	1360	1326	1408	1384	1732	1728	1610	1595	1541	1439	1356	1290	1809	1831	1767	1488	1360
68	1372	1342	1422	1396	1748	1746	1625	1607	1553	1452	1371	1300	1823	1844	1783	1505	1372
69	1385	1354	1434	1408	1765	1761	1638	1622	1564	1466	1381	1311	1840	1858	1796	1521	1385
70	1395	1370	1445	1418	1777	1775	1651	1635	1573	1477	1392	1320	1856	1872	1810	1535	1395
71	1406	1382	1455	1428	1790	1788	1666	1645	1582	1490	1403	1329	1870	1883	1822	1549	1406
72	1415	1393	1467	1436	1806	1802	1677	1656	1594	1499	1415	1337	1881	1895	1834	1562	1415
73	1424	1404	1475	1446	1819	1816	1688	1664	1602	1509	1424	1346	1894	1905	1845	1574	1424
74	1434	1412	1484	1453	1830	1830	1698	1677	1609	1519	1430	1355	1906	1915	1858	1584	1434
75	1441	1423	1491	1460	1838	1841	1709	1684	1616	1528	1440	1361	1918	1924	1866	1593	1441
76	1449	1431	1501	1468	1851	1850	1719	1694	1625	1538	1450	1369	1928	1934	1876	1603	1449
77	1456	1437	1509	1473	1861	1860	1727	1703	1633	1547	1458	1376	1936	1942	1886	1611	1456
78	1463	1444	1514	1479	1870	1868	1736	1713	1639	1557	1462	1383	1944	1949	1894	1619	1463
79	1468	1451	1520	1484	1878	1877	1742	1718	1643	1563	1467	1389	1953	1954	1902	1624	1468
80	1474	1458	1524	1489	1886	1885	1751	1723	1650	1568	1474	1393	1961	1961	1908	1631	1474
81	1478	1461	1529	1494	1895	1892	1758	1731	1657	1575	1480	1395	1967	1967	1914	1637	1478
82	1482	1466	1535	1497	1898	1896	1762	1736	1662	1579	1484	1397	1972	1972	1918	1641	1482
83	1485	1468	1539	1499	1901	1899	1766	1740	1664	1583	1484	1399	1975	1976	1922	1645	1485
84	1489	1470	1543	1502	1905	1901	1770	1740	1665	1586	1486	1402	1979	1979	1927	1649	1489
85	1491	1474	1546	1505	1910	1904	1773	1743	1668	1589	1489	1405	1982	1981	1930	1649	1491
86	1492	1476	1545	1507	1914	1906	1776	1747	1672	1592	1491	1406	1985	1981	1932	1651	1492
87	1493	1477	1547	1507	1916	1909	1777	1747	1674	1595	1494	1407	1987	1981	1933	1652	1493
88	1493	1477	1550	1508	1916	1911	1778	1749	1675	1594	1495	1407	1988	1983	1932	1652	1493
89	1492	1476	1551	1507	1916	1910	1778	1749	1672	1594	1495	1406	1988	1984	1933	1653	1492
90	1493	1476	1551	1507	1915	1909	1779	1747	1672	1593	1495	1403	1988	1983	1931	1652	1493
91	1491	1476	1550	1508	1916	1907	1779	1747	1672	1593	1494	1403	1987	1983	1931	1651	1491
92	1491	1475	1549	1508	1916	1906	1776	1746	1673	1592	1494	1402	1986	1982	1930	1649	1491

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

93	1489	1474	1547	1508	1914	1905	1774	1745	1671	1590	1493	1400	1983	1979	1929	1646	1489
94	1487	1471	1546	1507	1911	1905	1772	1742	1669	1588	1490	1398	1978	1975	1924	1645	1487
95	1484	1468	1543	1504	1907	1902	1769	1737	1665	1585	1487	1396	1974	1972	1921	1641	1484
96	1480	1467	1541	1501	1903	1898	1766	1733	1662	1581	1484	1392	1969	1970	1915	1638	1480
97	1477	1462	1537	1499	1898	1895	1762	1729	1660	1578	1482	1387	1966	1963	1910	1633	1477
98	1473	1459	1534	1496	1896	1890	1758	1725	1656	1572	1479	1382	1960	1959	1905	1627	1473
99	1468	1454	1529	1493	1889	1885	1752	1721	1652	1568	1473	1377	1954	1954	1899	1619	1468
100	1462	1449	1525	1490	1885	1880	1745	1716	1649	1561	1468	1371	1947	1947	1893	1613	1462
101	1455	1443	1521	1485	1878	1874	1737	1709	1642	1557	1461	1365	1937	1940	1886	1607	1455
102	1448	1434	1516	1481	1868	1866	1728	1702	1634	1549	1454	1358	1927	1932	1876	1601	1448
103	1441	1427	1508	1475	1859	1857	1720	1692	1626	1541	1446	1351	1916	1923	1867	1592	1441
104	1433	1420	1501	1471	1849	1846	1710	1682	1619	1532	1438	1343	1905	1913	1856	1582	1433
105	1423	1411	1493	1466	1839	1836	1700	1671	1613	1523	1429	1334	1894	1905	1846	1571	1423
106	1416	1403	1484	1460	1827	1826	1690	1662	1604	1512	1421	1326	1882	1893	1836	1560	1416
107	1408	1391	1477	1452	1815	1814	1679	1650	1595	1501	1410	1315	1869	1884	1824	1547	1408
108	1397	1380	1469	1444	1803	1802	1664	1638	1585	1491	1400	1306	1855	1871	1813	1537	1397
109	1387	1369	1459	1434	1789	1788	1649	1626	1575	1479	1388	1297	1840	1860	1798	1523	1387
110	1374	1355	1449	1425	1773	1773	1636	1612	1565	1468	1377	1284	1822	1845	1786	1509	1374
111	1361	1342	1438	1416	1758	1759	1619	1600	1555	1456	1363	1273	1805	1835	1772	1493	1361
112	1349	1327	1427	1406	1742	1745	1604	1586	1542	1442	1351	1262	1786	1819	1758	1476	1349
113	1336	1311	1417	1396	1726	1728	1588	1572	1531	1427	1337	1251	1765	1804	1742	1460	1336
114	1322	1295	1405	1383	1707	1712	1570	1556	1518	1413	1323	1237	1745	1790	1727	1444	1322
115	1306	1279	1392	1371	1688	1694	1549	1539	1504	1398	1307	1223	1726	1773	1710	1427	1306
116	1290	1262	1380	1358	1669	1673	1531	1524	1490	1382	1291	1208	1706	1758	1691	1406	1290
117	1272	1247	1366	1345	1647	1652	1512	1506	1476	1367	1276	1192	1685	1741	1673	1387	1272
118	1255	1231	1351	1330	1625	1631	1491	1489	1462	1352	1258	1175	1663	1723	1654	1368	1255
119	1235	1214	1336	1316	1604	1608	1470	1471	1447	1336	1240	1158	1640	1703	1634	1350	1235
120	1217	1197	1319	1302	1582	1584	1451	1451	1433	1317	1223	1141	1617	1686	1611	1328	1217
121	1196	1180	1303	1286	1558	1560	1430	1431	1414	1298	1206	1122	1592	1666	1588	1310	1196
122	1177	1158	1283	1267	1536	1536	1410	1409	1398	1280	1187	1104	1571	1643	1564	1286	1177
123	1155	1141	1264	1247	1512	1513	1385	1388	1381	1259	1165	1085	1546	1621	1538	1264	1155
124	1134	1122	1244	1228	1487	1484	1363	1367	1361	1238	1145	1065	1523	1596	1512	1243	1134

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

125	1114	1101	1224	1210	1460	1456	1340	1342	1342	1216	1125	1042	1496	1575	1486	1221	1114
126	1096	1080	1203	1189	1435	1428	1316	1320	1323	1195	1104	1022	1468	1548	1458	1198	1096
127	1074	1059	1184	1169	1409	1400	1291	1297	1305	1170	1081	1000	1444	1520	1431	1174	1074
128	1055	1037	1162	1145	1383	1369	1266	1274	1281	1148	1060	980	1415	1495	1401	1150	1055
129	1034	1015	1140	1124	1355	1340	1241	1249	1260	1126	1039	956	1384	1465	1372	1127	1034
130	1013	994	1117	1105	1326	1310	1212	1224	1236	1101	1015	934	1351	1436	1345	1104	1013
131	992	972	1096	1084	1298	1281	1184	1199	1213	1076	991	913	1323	1408	1316	1077	992
132	969	947	1075	1061	1270	1248	1157	1174	1188	1053	968	890	1289	1377	1289	1048	969
133	948	924	1053	1039	1240	1218	1129	1144	1165	1029	945	867	1258	1350	1261	1019	948
134	925	898	1031	1017	1213	1188	1098	1117	1140	1001	919	846	1225	1317	1234	992	925
135	900	873	1007	993	1180	1155	1069	1088	1112	977	895	822	1191	1285	1204	962	900
136	876	849	982	971	1148	1126	1036	1061	1085	952	871	799	1156	1252	1172	934	876
137	853	824	961	947	1117	1096	1005	1033	1058	926	843	780	1123	1219	1145	909	853
138	829	803	935	924	1086	1065	978	1005	1032	900	821	756	1090	1188	1113	879	829
139	802	778	909	899	1055	1029	949	976	1002	872	794	733	1054	1154	1081	853	802
140	775	755	886	874	1021	1001	919	943	975	847	768	708	1028	1120	1049	824	775
141	750	729	859	849	991	970	887	918	949	816	741	685	992	1086	1013	795	750
142	719	704	833	823	959	933	858	886	919	793	717	661	959	1051	979	765	719
143	693	681	810	797	923	900	829	854	892	767	691	634	925	1019	943	737	693
144	667	655	784	773	891	868	800	823	864	741	665	610	895	981	903	709	667
145	639	632	756	744	857	835	768	792	837	712	638	585	859	946	871	679	639
146	613	608	728	717	820	798	738	762	804	685	612	557	825	908	829	649	613
147	585	583	699	688	788	765	709	728	773	658	588	533	790	870	790	621	585
148	557	559	671	658	755	730	677	697	742	628	558	507	757	831	751	589	557
149	530	534	642	630	721	692	647	667	709	600	531	481	724	793	712	563	530
150	501	510	614	599	688	657	615	636	674	572	505	455	688	752	675	532	501
151	473	483	584	570	651	624	583	603	641	545	479	428	654	712	637	503	473
152	446	455	552	539	616	589	546	572	607	513	450	403	617	673	595	474	446
153	420	431	522	509	582	553	514	540	570	485	423	376	581	634	557	447	420
154	393	407	490	477	545	519	482	505	536	456	395	352	544	592	522	417	393
155	365	381	462	447	511	486	449	473	502	427	365	329	507	553	484	390	365
156	342	358	434	419	478	454	418	442	469	396	339	306	477	519	448	365	342

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

157	317	336	406	393	445	420	387	411	432	368	313	283	441	479	413	337	317
158	291	312	375	362	409	389	358	377	400	341	288	259	411	442	376	313	291
159	268	289	346	335	378	358	326	346	368	312	261	237	378	405	344	285	268
160	242	267	319	306	348	325	299	317	334	286	239	216	344	369	311	260	242
161	218	244	291	278	318	296	273	287	306	261	216	193	315	332	276	237	218
162	197	224	263	252	287	269	246	260	278	237	196	175	284	299	247	216	197
163	177	202	236	226	258	242	222	236	250	213	174	156	254	268	221	194	177
164	158	183	213	201	231	214	199	211	221	190	155	137	223	237	195	170	158
165	142	165	188	178	204	190	175	185	195	169	136	120	200	207	169	150	142
166	123	146	165	155	182	167	154	162	171	148	118	104	175	178	147	133	123
167	107	128	141	136	160	146	135	141	148	127	103	91	150	151	125	114	107
168	93	109	121	115	138	125	117	122	125	109	88	77	127	128	108	97	93
169	81	93	104	97	118	108	101	103	106	92	75	64	106	106	91	84	81
170	69	80	87	82	101	91	85	88	88	76	62	55	87	88	78	71	69
171	59	66	72	67	84	75	71	73	71	63	53	45	72	71	66	60	59
172	50	54	58	54	70	63	60	58	56	51	44	38	58	59	56	50	50
173	41	45	46	44	58	52	48	47	45	41	36	32	46	47	47	43	41
174	36	36	37	36	49	44	41	39	36	32	30	26	38	39	40	37	36
175	32	29	31	30	41	36	34	32	27	24	25	22	32	34	33	31	32
176	27	25	26	24	35	31	29	25	22	19	20	17	26	28	28	26	27
177	21	20	21	20	27	25	22	17	15	13	14	12	21	21	21	20	21
178	13	15	17	16	18	17	13	13	13	10	10	7	14	14	11	11	13
179	7	7	8	6	12	7	8	10	7	7	6	6	7	8	8	7	7
180	7	5	6	6	7	7	8	7	7	6	5	5	7	8	8	7	7

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

2.2 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction BL-QP-033)*

Test date	2020-11-04	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED110HIDRODAREA840MOG (closed)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC201002	120.0	60	0.935	111.51	0.994	7.21
6E-E2	277.0	60	0.437	111.15	0.918	14.37
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	3
Frequency (Hz)	60	R2	88	R10	72
CCT (K)	4019	R3	95	R11	81
Duv	0.0015	R4	82	R12	60
Chromaticity (x, y)	x=0.3807 y=0.3802	R5	81	R13	82
Chromaticity (u', v')	u(u')=0.2239 v'=0.5031	R6	84	R14	97
Color Rendering Index (CRI)	82	R7	85	R15	74
R9	3	R8	63	--	--
Rf	84				
Rg	95				
Rcs,h1(%)	-12				

Photometric Measurement – Goniophotometer Method:

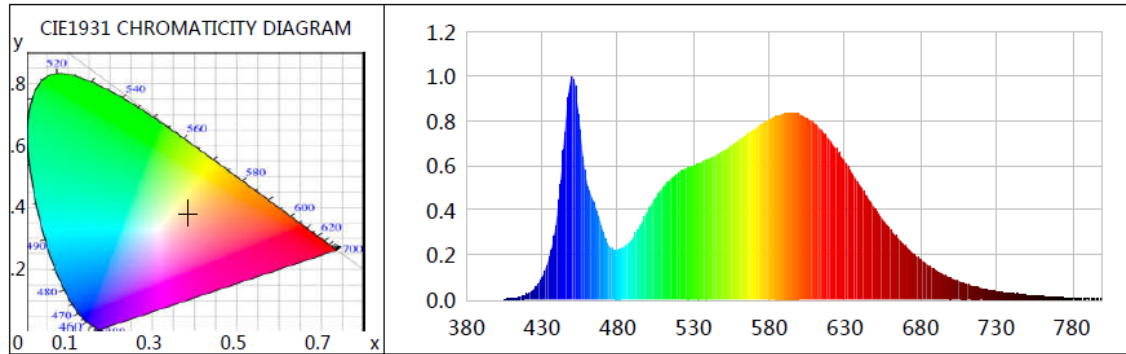
Parameter	Result		Rating	Tolerance
Test Voltage (V)	120.0	277.0	--	--
Frequency (Hz)	60	60	--	--
Total Luminous (lm)	17091.1	16793.7	16500	Comply -10%
Luminous Efficacy (lm/W)	153.27	151.09	150	Comply -3%
Most worst Luminous/Highest Watts	150.60		--	--



Certificate#4810.01

Report No.: BLC2010026E-E

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.1263	525	0.5848	207.6974	670	0.2382	84.6081
385	0.0008	0.2733	530	0.5988	212.6704	675	0.2067	73.3941
390	0.0003	0.1209	535	0.6136	217.9069	680	0.1788	63.5159
395	0.0004	0.1581	540	0.6310	224.1163	685	0.1535	54.5116
400	0.0008	0.2846	545	0.6453	229.1937	690	0.1322	46.9366
405	0.0019	0.6882	550	0.6666	236.7526	695	0.1121	39.8269
410	0.0043	1.5182	555	0.6878	244.2683	700	0.0970	34.4389
415	0.0104	3.7010	560	0.7148	253.8509	705	0.0823	29.2264
420	0.0234	8.3189	565	0.7384	262.2390	710	0.0702	24.9153
425	0.0499	17.7285	570	0.7614	270.4246	715	0.0591	20.9928
430	0.1011	35.9124	575	0.7884	280.0087	720	0.0503	17.8483
435	0.1966	69.8266	580	0.8076	286.8067	725	0.0427	15.1545
440	0.3839	136.3496	585	0.8215	291.7449	730	0.0359	12.7498
445	0.7523	267.1959	590	0.8332	295.9061	735	0.0310	10.9989
450	1.0000	355.1528	595	0.8352	296.6262	740	0.0268	9.5026
455	0.7627	270.8840	600	0.8302	294.8412	745	0.0237	8.4213
460	0.5120	181.8401	605	0.8134	288.8958	750	0.0194	6.8807
465	0.4198	149.0999	610	0.7878	279.7939	755	0.0163	5.7760
470	0.3081	109.4078	615	0.7548	268.0637	760	0.0143	5.0870
475	0.2326	82.6200	620	0.7147	253.8229	765	0.0113	4.0158
480	0.2222	78.9007	625	0.6656	236.3911	770	0.0104	3.6962
485	0.2391	84.9220	630	0.6160	218.7588	775	0.0083	2.9544
490	0.2755	97.8409	635	0.5635	200.1374	780	0.0081	2.8667
495	0.3352	119.0393	640	0.5104	181.2703	785	0.0069	2.4681
500	0.3988	141.6505	645	0.4563	162.0510	790	0.0077	2.7287
505	0.4559	161.8971	650	0.4062	144.2525	795	0.0037	1.3006
510	0.5042	179.0731	655	0.3587	127.3820	800	0.0051	1.8158
515	0.5393	191.5510	660	0.3144	111.6449			
520	0.5651	200.7123	665	0.2738	97.2498			

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Report Format Number BL-FM-SA-012

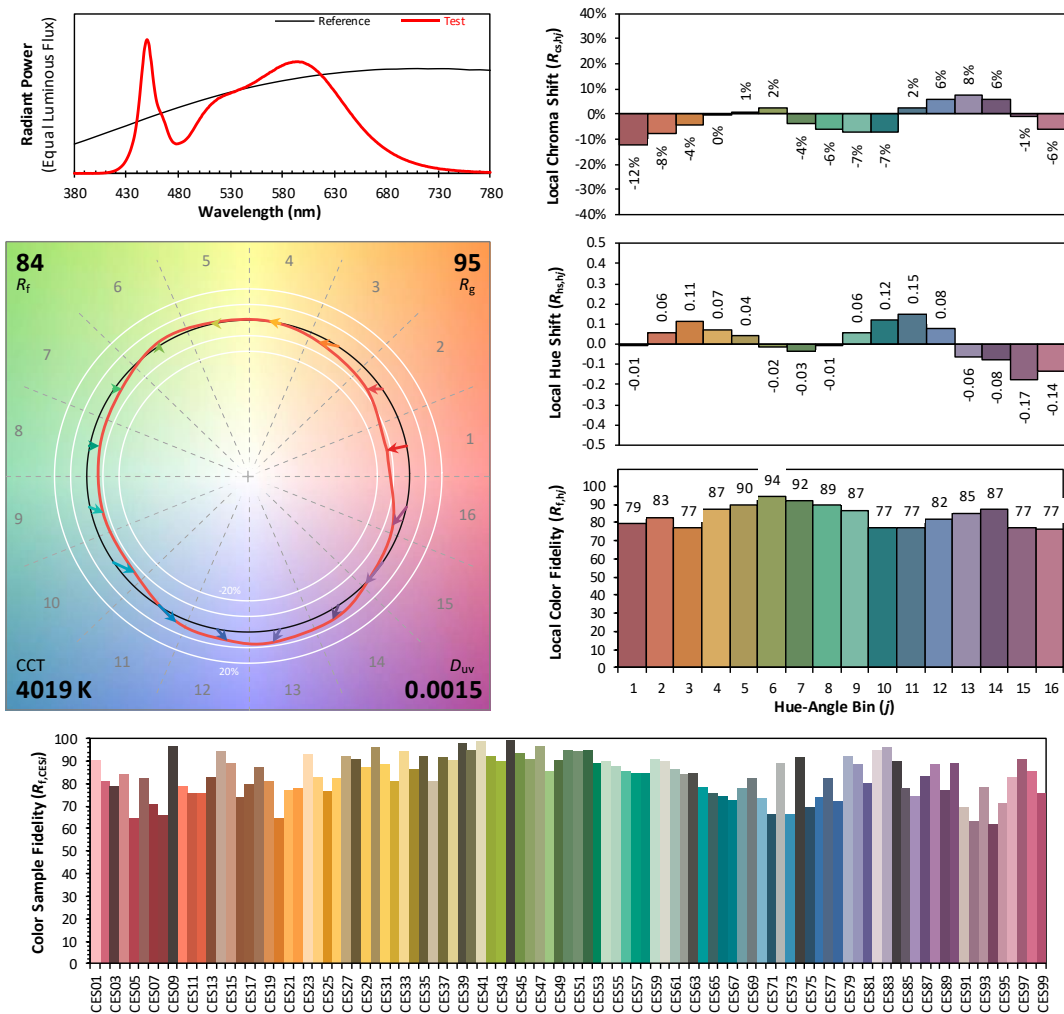


Report No.: BLC2010026E-E

TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1
Date: 2020/11/6
Manufacturer: LEDVANCE LLC
Model: LED110HIDRODAREA840MOG (closed)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3807
y	0.3802
u'	0.2239
v'	0.5031

CIE 13.3-1995 (CRI)	
R_a	82
R_g	3

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00



Report No.: BLC2010026E-E

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	313.0	1.8%	1.8%
0-40	855.8	5%	5%
0-60	3,055.9	17.9%	17.9%
60-90	5,534.9	32.4%	32.4%
70-100	5,904.8	34.5%	34.5%
90-120	5,501.2	32.2%	32.2%
0-90	8,590.8	50.3%	50.3%
90-180	8,501.8	49.7%	49.7%
0-180	17,092.5	100%	100%

Lumens Per Zone

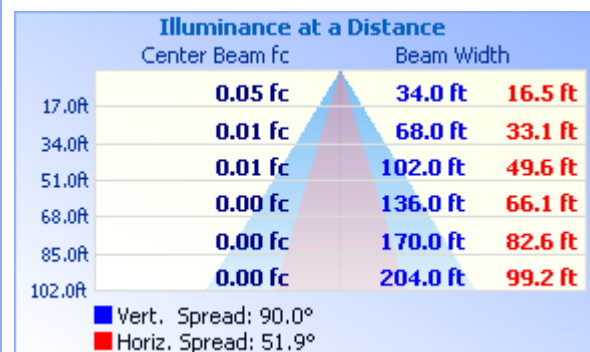
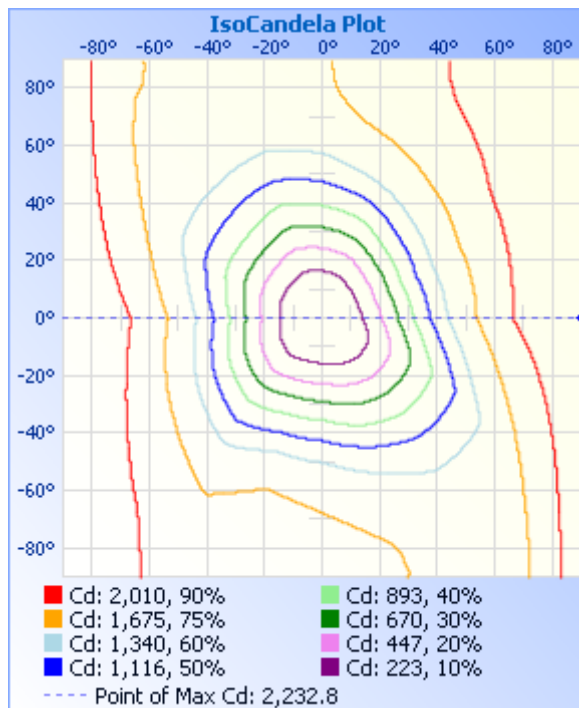
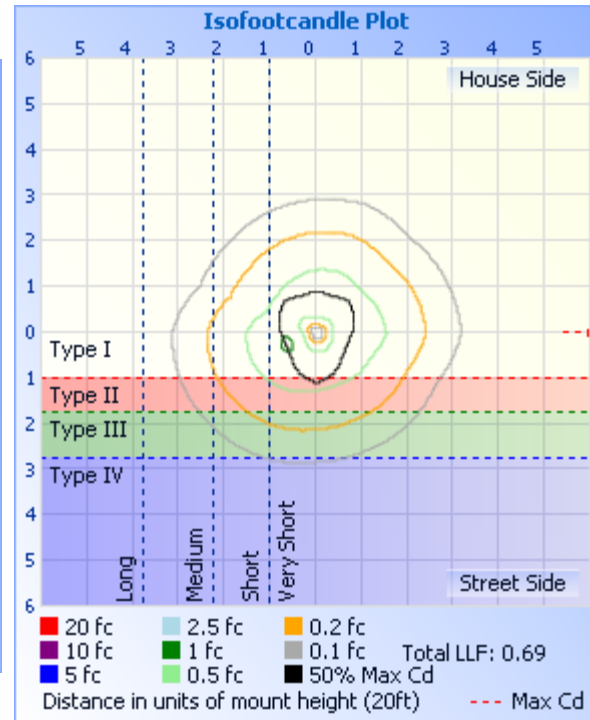
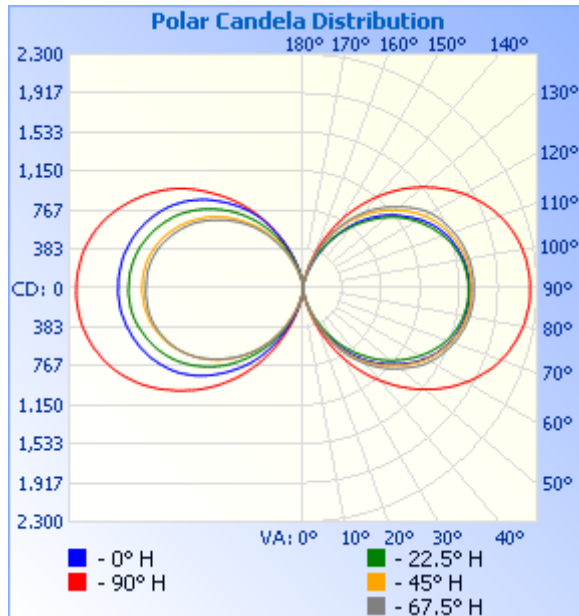
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	5.5	0.0%	90-100	2,007.0	11.7%
10-20	63.8	0.4%	100-110	1,874.1	11%
20-30	243.6	1.4%	110-120	1,620.1	9.5%
30-40	542.8	3.2%	120-130	1,275.8	7.5%
40-50	907.3	5.3%	130-140	892.8	5.2%
50-60	1,292.8	7.6%	140-150	530.8	3.1%
60-70	1,637.2	9.6%	150-160	235.7	1.4%
70-80	1,885.8	11.0%	160-170	60.6	0.4%
80-90	2,011.9	11.8%	170-180	5.0	0%



Certificate#4810.01

Report No.: BLC2010026E-E

Photometric Data



Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
1	19	18	16	14	17	14	11	11	12	13	16	18	21	20	20	21	19
2	26	23	21	19	24	19	16	16	17	18	21	23	28	28	28	28	26
3	30	28	25	23	30	27	23	22	21	23	25	27	36	34	32	33	30
4	35	32	30	26	35	32	29	28	25	27	28	31	42	40	39	39	35
5	40	37	35	30	42	38	34	33	31	32	33	37	50	49	47	44	40
6	46	43	41	37	50	44	40	42	38	39	38	43	60	61	58	53	46
7	56	51	50	46	61	51	48	51	49	47	46	51	73	76	71	63	56
8	66	60	60	58	74	62	57	64	62	58	56	60	89	94	87	74	66
9	79	70	72	72	88	74	69	79	79	70	66	71	106	113	105	87	79
10	91	84	87	87	108	89	84	93	97	83	79	84	126	138	126	103	91
11	106	97	103	104	128	103	98	114	116	99	93	99	148	164	151	121	106
12	123	113	123	127	151	122	115	136	137	118	108	114	173	193	177	141	123
13	143	129	143	149	176	144	135	159	162	137	126	132	200	226	203	160	143
14	164	148	165	173	201	167	156	184	189	158	143	150	227	255	231	181	164
15	184	166	188	198	229	191	177	210	214	180	163	170	259	289	263	205	184
16	208	188	213	223	259	216	201	236	243	203	183	191	291	324	296	230	208
17	231	208	239	250	294	244	225	267	272	228	204	216	324	363	331	255	231
18	256	232	269	279	328	273	249	295	301	254	228	239	359	401	364	280	256
19	282	256	296	309	362	303	278	324	332	284	251	263	394	441	399	308	282
20	309	280	325	343	397	337	305	355	366	311	276	287	433	480	435	340	309
21	339	307	355	374	434	370	335	388	399	340	301	312	469	520	472	369	339
22	366	332	384	404	471	402	365	422	433	369	327	338	507	564	508	399	366
23	395	358	418	437	513	435	396	461	467	400	355	365	545	603	549	433	395
24	425	384	449	466	552	468	428	497	503	429	384	394	585	647	590	464	425
25	455	411	480	500	591	502	463	533	538	463	411	421	627	691	626	498	455
26	487	440	511	534	635	540	495	569	577	493	438	451	672	735	668	532	487
27	517	469	543	569	677	576	529	609	613	524	467	479	714	780	708	570	517
28	546	501	576	603	718	613	563	645	650	555	496	507	755	825	747	605	546



Report No.: BLC2010026E-E

Certificate#4810.01

29	576	529	610	640	760	651	601	682	687	587	529	536	795	867	790	637	576
30	607	558	642	672	799	688	636	719	722	621	559	565	836	910	826	672	607
31	641	588	673	705	839	729	670	755	757	651	589	594	876	952	865	705	641
32	671	618	705	736	883	766	704	790	794	681	618	624	917	992	901	738	671
33	703	646	735	768	922	804	739	830	828	710	648	653	956	1031	941	773	703
34	734	676	766	801	960	841	772	864	861	740	677	680	995	1070	978	802	734
35	764	704	799	830	999	878	809	899	892	770	708	709	1036	1108	1010	835	764
36	795	732	826	860	1038	920	840	933	924	802	734	736	1071	1145	1045	867	795
37	823	761	856	888	1080	956	870	964	957	831	761	766	1113	1180	1080	902	823
38	854	788	885	917	1121	992	901	1002	987	861	788	792	1146	1216	1115	933	854
39	881	818	911	946	1153	1027	934	1036	1017	890	813	817	1185	1253	1147	962	881
40	911	842	938	976	1190	1060	965	1069	1046	921	841	843	1223	1287	1180	995	911
41	939	870	965	1001	1226	1095	994	1101	1077	949	868	868	1260	1320	1213	1029	939
42	966	896	991	1028	1264	1132	1025	1133	1108	981	894	892	1296	1357	1245	1062	966
43	992	925	1017	1056	1304	1166	1054	1168	1138	1010	920	918	1330	1390	1276	1094	992
44	1018	953	1040	1083	1340	1198	1086	1200	1167	1040	948	942	1366	1422	1308	1124	1018
45	1042	979	1066	1107	1376	1234	1115	1231	1196	1067	974	966	1402	1454	1338	1156	1042
46	1067	1005	1088	1134	1409	1266	1144	1264	1229	1096	999	991	1436	1483	1370	1189	1067
47	1093	1032	1113	1158	1446	1299	1172	1295	1257	1123	1025	1014	1472	1514	1398	1219	1093
48	1119	1058	1138	1182	1481	1331	1200	1330	1285	1150	1049	1040	1501	1548	1428	1249	1119
49	1143	1082	1160	1204	1514	1364	1231	1361	1313	1177	1075	1063	1534	1575	1455	1279	1143
50	1165	1106	1182	1229	1546	1399	1258	1391	1341	1204	1098	1086	1566	1604	1485	1309	1165
51	1189	1131	1207	1252	1584	1430	1283	1422	1367	1228	1121	1109	1601	1634	1511	1338	1189
52	1212	1153	1231	1276	1614	1462	1309	1453	1390	1252	1143	1134	1633	1666	1541	1363	1212
53	1236	1175	1253	1299	1647	1493	1336	1480	1413	1275	1165	1156	1660	1696	1564	1388	1236
54	1258	1199	1276	1322	1678	1524	1365	1506	1438	1299	1187	1179	1695	1726	1591	1416	1258
55	1282	1223	1299	1346	1707	1556	1390	1533	1462	1324	1208	1201	1728	1754	1613	1440	1282
56	1304	1244	1319	1368	1740	1585	1413	1562	1483	1346	1228	1224	1754	1783	1638	1462	1304
57	1327	1266	1342	1391	1768	1615	1440	1584	1503	1368	1249	1245	1786	1806	1664	1487	1327
58	1348	1288	1364	1410	1795	1642	1461	1610	1521	1389	1268	1266	1815	1834	1685	1508	1348
59	1366	1310	1383	1428	1822	1671	1486	1632	1541	1409	1286	1284	1843	1855	1706	1530	1366
60	1386	1330	1402	1443	1847	1703	1510	1654	1558	1429	1305	1303	1869	1878	1728	1551	1386

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

61	1406	1349	1418	1460	1877	1730	1529	1677	1575	1449	1323	1322	1896	1900	1746	1572	1406
62	1423	1369	1435	1476	1901	1755	1554	1697	1592	1467	1341	1339	1917	1920	1767	1592	1423
63	1440	1389	1452	1490	1925	1781	1573	1717	1607	1484	1357	1354	1943	1939	1783	1612	1440
64	1456	1407	1467	1505	1947	1803	1593	1736	1622	1502	1376	1369	1965	1956	1800	1632	1456
65	1471	1424	1482	1518	1969	1824	1613	1753	1640	1518	1393	1385	1988	1976	1816	1651	1471
66	1487	1442	1496	1530	1993	1843	1630	1774	1654	1534	1408	1399	2010	1990	1832	1671	1487
67	1501	1459	1510	1543	2016	1859	1647	1792	1666	1548	1423	1412	2030	2003	1849	1690	1501
68	1515	1474	1523	1556	2035	1876	1664	1807	1678	1563	1437	1424	2048	2017	1864	1709	1515
69	1527	1490	1536	1565	2054	1888	1680	1822	1692	1576	1451	1437	2065	2032	1880	1725	1527
70	1538	1504	1548	1576	2070	1903	1693	1838	1704	1588	1463	1448	2082	2043	1894	1742	1538
71	1550	1517	1559	1586	2086	1915	1708	1853	1714	1600	1474	1458	2098	2054	1906	1757	1550
72	1559	1527	1569	1598	2103	1929	1720	1865	1723	1613	1484	1470	2112	2065	1918	1773	1559
73	1570	1540	1578	1607	2119	1944	1730	1877	1735	1623	1496	1479	2125	2075	1930	1785	1570
74	1579	1551	1588	1615	2129	1957	1741	1891	1745	1633	1506	1490	2140	2085	1943	1797	1579
75	1586	1561	1599	1624	2141	1969	1752	1903	1752	1644	1515	1498	2153	2093	1953	1808	1586
76	1594	1570	1608	1632	2156	1979	1762	1913	1759	1654	1524	1506	2164	2103	1962	1819	1594
77	1602	1579	1615	1639	2167	1988	1771	1924	1768	1664	1534	1512	2174	2112	1971	1829	1602
78	1608	1587	1622	1646	2177	1998	1782	1936	1778	1674	1542	1520	2183	2120	1978	1837	1608
79	1615	1595	1627	1653	2187	2009	1789	1945	1784	1683	1547	1526	2192	2126	1987	1844	1615
80	1620	1600	1633	1659	2197	2018	1795	1952	1789	1690	1553	1532	2202	2130	1995	1852	1620
81	1624	1606	1639	1663	2206	2026	1802	1952	1795	1695	1559	1535	2208	2137	2000	1858	1624
82	1629	1611	1644	1667	2210	2030	1809	1956	1803	1701	1565	1538	2214	2141	2003	1863	1629
83	1631	1615	1648	1670	2214	2034	1813	1947	1808	1706	1569	1540	2219	2146	2006	1868	1631
84	1633	1620	1652	1674	2219	2038	1817	1952	1811	1709	1572	1542	2222	2149	2009	1872	1633
85	1636	1624	1653	1677	2225	2040	1820	1954	1812	1711	1574	1543	2226	2151	2014	1874	1636
86	1637	1625	1654	1680	2230	2045	1823	1956	1815	1713	1575	1545	2230	2150	2017	1876	1637
87	1638	1627	1656	1679	2232	2049	1825	1958	1818	1717	1579	1547	2232	2150	2017	1877	1638
88	1638	1626	1657	1680	2232	2051	1826	1960	1821	1720	1581	1547	2233	2149	2017	1878	1638
89	1638	1625	1658	1680	2232	2049	1826	1962	1821	1719	1582	1547	2233	2152	2016	1878	1638
90	1639	1625	1658	1679	2232	2047	1827	1961	1820	1718	1582	1546	2231	2153	2013	1878	1639
91	1638	1626	1657	1679	2233	2047	1827	1959	1819	1715	1581	1544	2230	2152	2013	1876	1638
92	1636	1624	1657	1681	2232	2048	1827	1957	1819	1714	1581	1542	2229	2151	2013	1872	1636

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

93	1633	1622	1655	1680	2230	2047	1824	1957	1819	1714	1581	1542	2225	2148	2013	1870	1633
94	1630	1619	1653	1677	2225	2047	1821	1955	1817	1712	1579	1541	2223	2144	2010	1866	1630
95	1627	1615	1650	1674	2220	2044	1819	1952	1814	1709	1577	1540	2217	2140	2006	1862	1627
96	1623	1611	1647	1672	2216	2039	1816	1947	1810	1706	1573	1538	2212	2137	2000	1858	1623
97	1619	1607	1643	1669	2212	2035	1813	1942	1806	1702	1569	1534	2206	2133	1994	1851	1619
98	1615	1602	1639	1666	2207	2032	1809	1938	1803	1697	1566	1530	2201	2127	1987	1844	1615
99	1610	1597	1635	1662	2198	2027	1805	1932	1800	1691	1562	1525	2195	2121	1981	1835	1610
100	1603	1590	1631	1657	2192	2023	1798	1928	1795	1686	1556	1519	2187	2115	1976	1828	1603
101	1596	1582	1625	1652	2183	2017	1789	1921	1790	1680	1550	1512	2176	2110	1968	1818	1596
102	1588	1572	1619	1646	2174	2009	1781	1913	1780	1672	1543	1505	2165	2101	1958	1809	1588
103	1580	1563	1610	1640	2163	2001	1769	1903	1772	1664	1534	1497	2152	2093	1949	1797	1580
104	1573	1553	1602	1634	2152	1993	1762	1891	1766	1656	1525	1489	2141	2082	1937	1786	1573
105	1562	1544	1593	1627	2139	1982	1752	1878	1758	1645	1516	1478	2128	2074	1926	1772	1562
106	1553	1532	1585	1620	2125	1970	1740	1865	1750	1634	1507	1469	2115	2063	1915	1759	1553
107	1543	1520	1577	1612	2111	1958	1729	1853	1741	1623	1497	1457	2098	2052	1903	1743	1543
108	1533	1507	1568	1603	2098	1946	1715	1840	1731	1611	1485	1446	2083	2043	1891	1729	1533
109	1522	1493	1556	1593	2081	1932	1701	1826	1720	1599	1473	1432	2065	2031	1876	1715	1522
110	1509	1478	1545	1583	2062	1918	1687	1812	1708	1587	1462	1417	2047	2018	1863	1697	1509
111	1496	1463	1534	1574	2044	1905	1671	1796	1697	1575	1447	1404	2026	2005	1849	1680	1496
112	1482	1448	1522	1563	2026	1890	1655	1781	1686	1561	1434	1390	2006	1990	1832	1661	1482
113	1467	1431	1509	1553	2007	1876	1638	1764	1673	1545	1420	1377	1984	1972	1817	1640	1467
114	1453	1414	1496	1540	1985	1860	1621	1747	1658	1531	1406	1362	1962	1957	1803	1621	1453
115	1436	1397	1484	1530	1964	1843	1601	1727	1644	1516	1389	1348	1939	1938	1786	1602	1436
116	1419	1380	1468	1518	1941	1824	1580	1711	1629	1499	1373	1333	1915	1917	1766	1579	1419
117	1400	1362	1454	1505	1917	1802	1561	1689	1613	1483	1357	1315	1893	1895	1747	1556	1400
118	1381	1342	1436	1492	1894	1779	1542	1671	1598	1469	1341	1298	1867	1875	1726	1531	1381
119	1361	1324	1421	1476	1870	1755	1521	1650	1582	1452	1321	1281	1842	1854	1707	1512	1361
120	1341	1308	1402	1462	1845	1729	1498	1630	1567	1433	1304	1263	1818	1828	1684	1487	1341
121	1319	1287	1384	1446	1819	1700	1478	1607	1547	1413	1285	1244	1791	1805	1658	1463	1319
122	1297	1269	1364	1428	1789	1673	1458	1584	1529	1394	1266	1223	1764	1778	1635	1440	1297
123	1275	1246	1346	1408	1761	1646	1434	1561	1509	1372	1244	1203	1737	1750	1606	1414	1275
124	1251	1225	1326	1385	1733	1615	1411	1538	1488	1350	1224	1182	1708	1725	1582	1388	1251

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

125	1229	1204	1305	1362	1701	1587	1388	1513	1467	1329	1203	1159	1681	1697	1555	1363	1229
126	1209	1182	1283	1341	1671	1558	1364	1487	1447	1308	1183	1136	1652	1670	1530	1335	1209
127	1186	1161	1263	1317	1642	1529	1337	1463	1424	1283	1159	1114	1620	1640	1501	1312	1186
128	1165	1137	1238	1292	1611	1496	1312	1438	1402	1260	1138	1091	1590	1611	1472	1285	1165
129	1141	1111	1215	1267	1578	1465	1287	1408	1376	1235	1116	1067	1557	1579	1443	1257	1141
130	1115	1084	1192	1243	1546	1434	1258	1380	1353	1211	1090	1044	1523	1550	1415	1228	1115
131	1094	1060	1168	1219	1513	1403	1232	1352	1328	1187	1067	1020	1488	1520	1386	1199	1094
132	1068	1034	1146	1195	1482	1368	1206	1323	1303	1161	1043	997	1453	1491	1359	1169	1068
133	1045	1005	1121	1171	1447	1336	1178	1291	1275	1136	1020	971	1418	1458	1331	1138	1045
134	1017	980	1098	1147	1414	1304	1149	1261	1248	1111	993	949	1380	1426	1299	1109	1017
135	990	951	1072	1121	1380	1271	1120	1231	1216	1083	967	925	1342	1393	1270	1076	990
136	963	923	1045	1094	1341	1238	1092	1197	1189	1057	941	899	1303	1360	1237	1046	963
137	935	897	1023	1068	1305	1206	1062	1166	1160	1031	912	875	1266	1326	1209	1015	935
138	909	871	997	1042	1269	1175	1030	1135	1132	1005	886	850	1232	1292	1174	982	909
139	879	843	970	1016	1233	1138	1000	1103	1104	975	860	824	1194	1257	1143	954	879
140	852	820	946	988	1192	1105	973	1072	1073	946	835	799	1157	1222	1109	921	852
141	822	791	917	960	1155	1071	939	1036	1045	920	810	774	1122	1185	1071	886	822
142	791	763	889	931	1122	1034	910	1005	1017	889	782	747	1084	1148	1033	852	791
143	759	736	863	901	1078	998	879	972	986	861	756	718	1045	1110	994	821	759
144	731	708	832	873	1039	963	850	940	958	832	730	691	1008	1070	956	790	731
145	698	680	810	840	1002	926	817	903	928	806	701	663	970	1035	920	755	698
146	667	655	775	809	959	885	786	870	894	774	674	636	934	992	880	720	667
147	638	627	744	775	920	848	755	833	863	746	647	605	894	951	838	685	638
148	604	600	714	742	882	811	720	798	830	715	615	577	857	910	797	650	604
149	577	574	683	712	843	772	687	764	796	682	587	548	818	865	756	617	577
150	545	545	653	677	804	736	654	729	762	651	558	520	776	826	717	585	545
151	515	519	622	644	759	695	621	694	723	621	529	490	734	779	677	551	515
152	484	491	590	610	719	655	583	656	687	590	497	462	695	737	637	518	484
153	455	463	558	577	679	617	550	621	647	557	468	436	654	692	597	485	455
154	423	435	523	539	635	581	517	583	610	526	438	406	615	651	555	451	423
155	395	408	492	505	596	546	484	547	573	494	406	380	575	610	515	420	395
156	368	383	464	475	557	510	449	513	537	462	377	355	539	565	477	392	368

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Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

157	342	359	432	440	518	473	418	477	500	427	349	329	498	525	441	361	342
158	312	334	398	410	477	438	388	439	461	396	322	301	463	484	402	334	312
159	285	309	369	375	440	404	355	405	426	366	293	277	426	444	367	303	285
160	258	284	339	344	404	368	326	373	393	335	268	253	388	401	331	275	258
161	232	260	309	314	366	336	297	342	357	307	244	230	353	363	297	250	232
162	210	236	278	283	334	306	271	308	326	280	222	206	320	326	262	226	210
163	188	214	250	254	301	277	243	279	295	254	198	185	287	289	232	201	188
164	165	192	226	227	269	245	219	251	263	227	177	165	255	256	206	179	165
165	147	170	200	202	238	218	195	222	234	203	157	144	227	224	178	156	147
166	129	153	176	176	211	192	171	196	207	180	137	125	197	191	152	137	129
167	111	134	150	151	183	168	150	172	181	157	120	109	171	163	129	118	111
168	96	115	128	129	158	143	131	149	157	134	104	93	144	139	110	100	96
169	83	99	109	109	135	123	113	127	132	115	89	79	119	116	93	87	83
170	70	83	91	91	114	105	95	109	111	96	74	68	98	95	77	73	70
171	60	69	74	74	94	87	81	91	91	78	63	57	81	77	64	62	60
172	50	57	61	61	80	73	67	74	74	65	54	46	66	62	53	51	50
173	44	46	50	49	66	61	56	59	59	53	45	38	53	49	46	43	44
174	38	37	40	40	56	50	46	48	46	41	36	31	43	39	38	36	38
175	33	31	33	33	47	42	38	39	36	31	30	27	36	32	33	31	33
176	27	26	27	28	39	34	33	30	28	24	23	22	28	28	27	26	27
177	20	21	22	22	29	27	25	22	20	17	16	14	22	21	17	19	20
178	13	14	17	17	19	17	16	16	16	14	11	10	15	13	11	10	13
179	7	7	8	7	12	8	9	12	12	8	7	6	8	9	8	8	7
180	7	7	6	7	7	8	8	8	7	7	7	6	9	8	8	7	7

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2020-11-04	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED110HIDRODAREA850MOG (closed)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC201002	120.0	60	0.925	110.24	0.993	7.24
6E-E3	277.0	60	0.434	109.79	0.914	14.86
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	5
Frequency (Hz)	60	R2	89	R10	74
CCT (K)	4966	R3	95	R11	79
Duv	0.0037	R4	80	R12	54
Chromaticity (x, y)	x=0.3468 y=0.3604	R5	81	R13	83
Chromaticity (u', v')	u(u')=0.2092 v'=0.4892	R6	85	R14	97
Color Rendering Index (CRI)	83	R7	87	R15	75
R9	5	R8	66	--	--
Rf	83		--		--
Rg	94		--		--
Rcs,h1(%)	-13		--		--

Photometric Measurement – Sphere-Spectroradiometer Method:

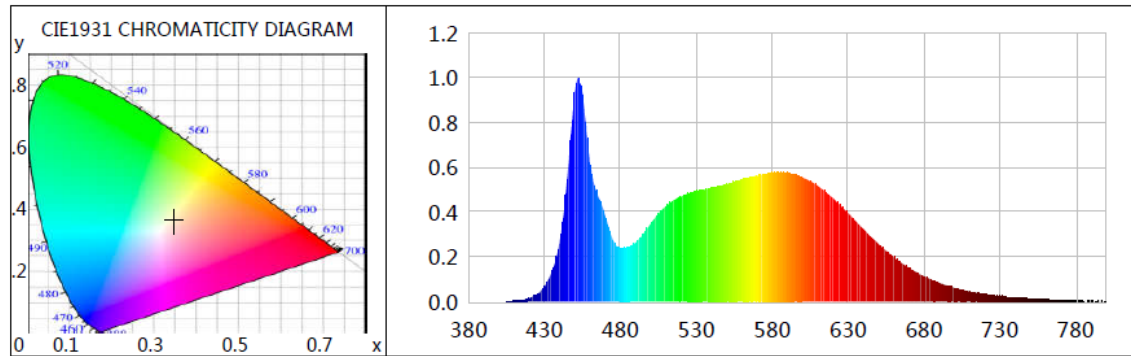
Parameter	Result		Rating	Tolerance
Test Voltage (V)	120.0	277.0	--	--
Frequency (Hz)	60	60	--	--
Total Luminous (lm)	16967.0	16658.4	16500	Comply -10%
Luminous Efficacy (lm/W)	153.91	151.73	150	Comply -3%
Most worst Luminous/Highest Watts	151.11			--



Certificate#4810.01

Report No.: BLC2010026E-E

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0002	0.0851	525	0.4827	226.3514	670	0.1511	70.8372
385	0.0001	0.0498	530	0.4910	230.2464	675	0.1313	61.5887
390	0.0003	0.1293	535	0.4988	233.9004	680	0.1124	52.7273
395	0.0002	0.1055	540	0.5088	238.6149	685	0.0967	45.3280
400	0.0008	0.3633	545	0.5141	241.0859	690	0.0833	39.0860
405	0.0013	0.6183	550	0.5245	245.9893	695	0.0717	33.6435
410	0.0029	1.3447	555	0.5339	250.3967	700	0.0609	28.5666
415	0.0069	3.2250	560	0.5456	255.8526	705	0.0519	24.3520
420	0.0156	7.3319	565	0.5545	260.0488	710	0.0443	20.7967
425	0.0328	15.3986	570	0.5609	263.0278	715	0.0376	17.6426
430	0.0685	32.1194	575	0.5700	267.2866	720	0.0327	15.3132
435	0.1368	64.1610	580	0.5746	269.4745	725	0.0274	12.8289
440	0.2670	125.2147	585	0.5729	268.6674	730	0.0235	11.0386
445	0.5538	259.7176	590	0.5740	269.1789	735	0.0195	9.1561
450	0.9355	438.7068	595	0.5669	265.8646	740	0.0176	8.2643
455	0.9234	433.0341	600	0.5550	260.2560	745	0.0158	7.3878
460	0.6132	287.5786	605	0.5389	252.7265	750	0.0125	5.8514
465	0.4756	223.0178	610	0.5174	242.6557	755	0.0113	5.2886
470	0.3784	177.4371	615	0.4914	230.4644	760	0.0101	4.7433
475	0.2749	128.9240	620	0.4613	216.3248	765	0.0088	4.1306
480	0.2363	110.8261	625	0.4286	200.9979	770	0.0075	3.4979
485	0.2430	113.9438	630	0.3950	185.2241	775	0.0060	2.7908
490	0.2624	123.0396	635	0.3592	168.4658	780	0.0055	2.5652
495	0.3011	141.2004	640	0.3253	152.5432	785	0.0035	1.6637
500	0.3485	163.4293	645	0.2890	135.5292	790	0.0051	2.4015
505	0.3906	183.1677	650	0.2563	120.2152	795	0.0039	1.8199
510	0.4267	200.0912	655	0.2272	106.5514	800	0.0021	0.9665
515	0.4517	211.8314	660	0.1979	92.7995			
520	0.4699	220.3677	665	0.1732	81.2472			

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

TM30

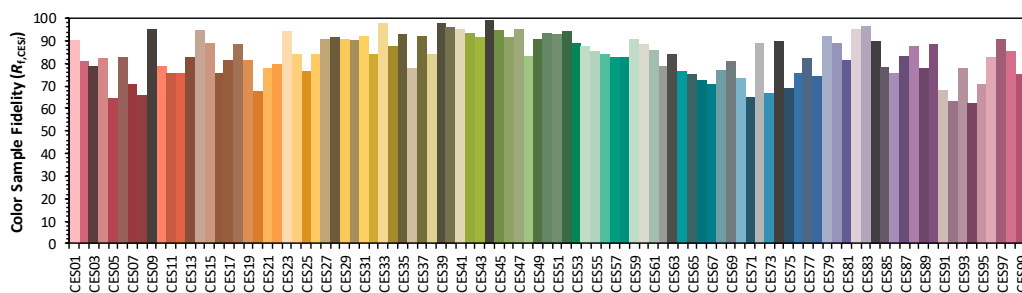
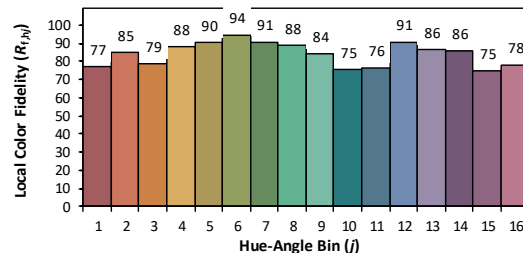
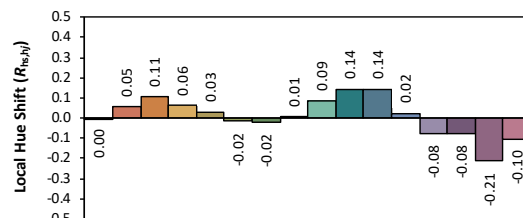
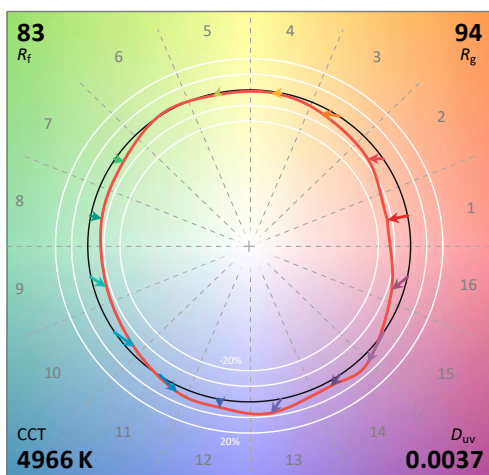
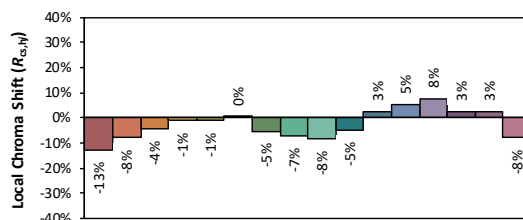
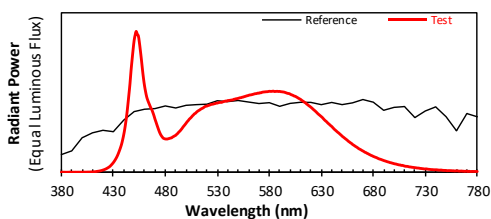
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: LEDVANCE LLC

Date: 2020/11/6

Model: LED110HIDRODAREA850MOG(closed)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3468
 y 0.3604
 u' 0.2092
 v' 0.4892

CIE 13.3-1995
(CRI)

R_a 83
 R_g 5

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	306.4	1.8%	1.8%
0-40	841.2	5%	5%
0-60	3,014.2	17.8%	17.8%
60-90	5,486.4	32.3%	32.3%
70-100	5,857.4	34.5%	34.5%
90-120	5,468.2	32.2%	32.2%
0-90	8,500.6	50.1%	50.1%
90-180	8,467.8	49.9%	49.9%
0-180	16,968.4	100%	100%

Lumens Per Zone

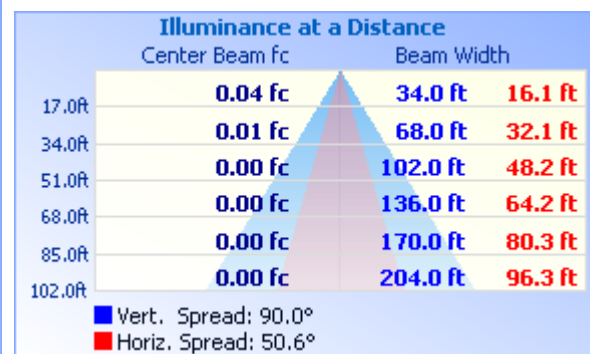
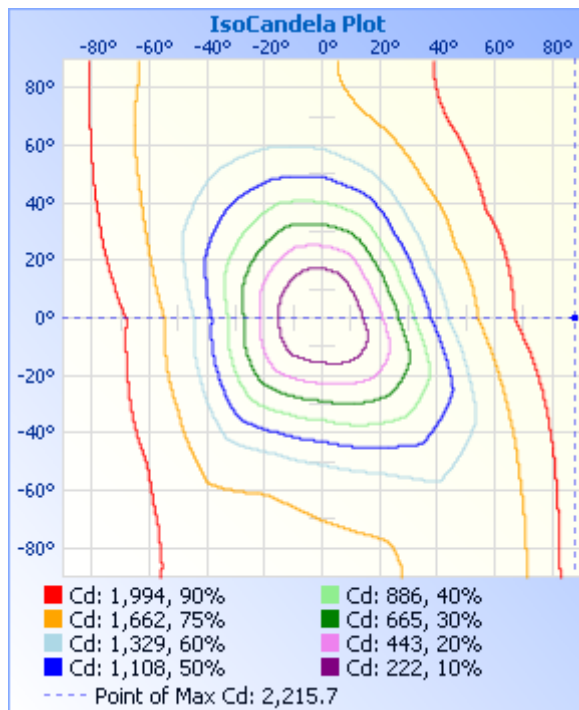
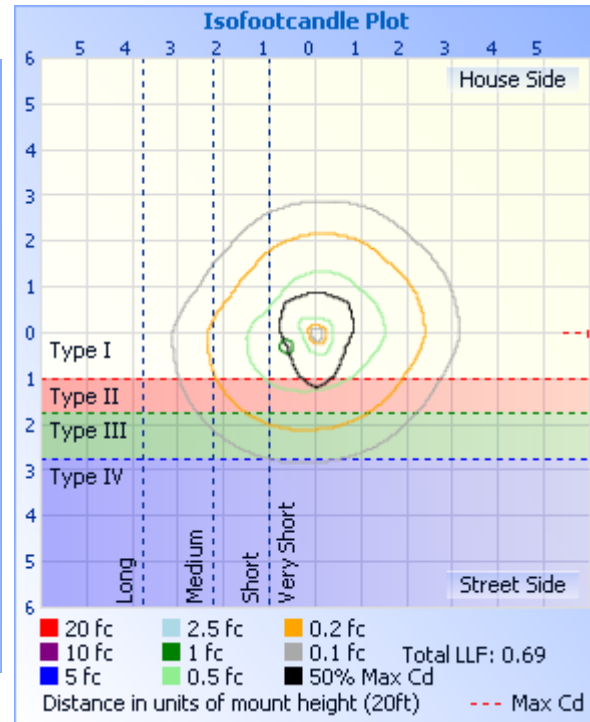
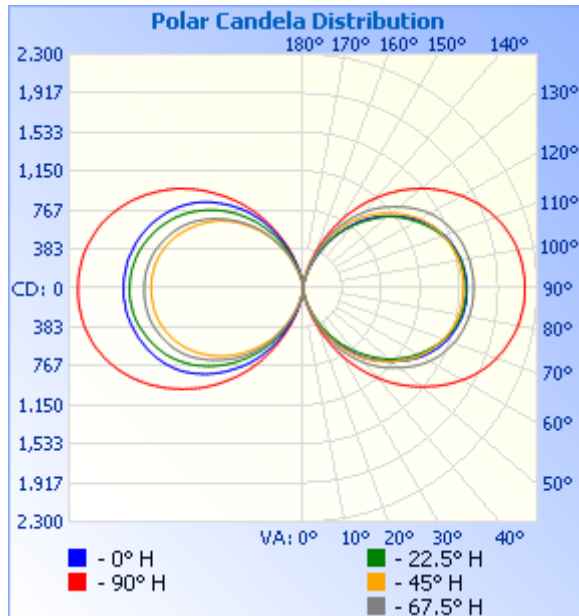
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	5.2	0.0%	90-100	1,992.3	11.7%
10-20	62.1	0.4%	100-110	1,862.6	11%
20-30	239.0	1.4%	110-120	1,613.3	9.5%
30-40	534.9	3.2%	120-130	1,272.3	7.5%
40-50	895.9	5.3%	130-140	891.9	5.3%
50-60	1,277.1	7.5%	140-150	531.3	3.1%
60-70	1,621.3	9.6%	150-160	237.2	1.4%
70-80	1,869.4	11.0%	160-170	61.7	0.4%
80-90	1,995.7	11.8%	170-180	5.2	0%



Certificate#4810.01

Report No.: BLC2010026E-E

Photometric Data





Report No.: BLC2010026E-E

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
1	15	13	10	9	13	11	12	13	13	14	14	16	18	18	17	16	15
2	20	17	16	16	20	18	19	19	18	19	19	21	26	25	24	23	20
3	25	23	21	21	28	25	25	22	22	23	23	25	33	31	28	28	25
4	29	28	25	23	34	32	30	27	26	28	27	30	39	37	34	33	29
5	34	33	30	28	40	37	36	33	32	34	32	35	46	45	42	39	34
6	40	38	35	34	48	45	43	43	41	41	37	42	55	55	51	47	40
7	48	46	42	42	57	53	51	53	52	49	46	51	69	70	64	54	48
8	57	55	52	54	69	64	61	68	65	61	55	61	83	87	79	64	57
9	69	64	62	66	82	77	76	82	82	74	66	72	100	108	97	77	69
10	80	75	77	80	101	91	88	98	99	88	78	84	119	131	118	90	80
11	93	88	93	96	120	108	104	119	121	105	91	100	142	157	141	105	93
12	108	103	110	118	142	127	122	141	143	123	106	119	165	184	166	123	108
13	127	121	128	140	165	149	144	165	167	141	122	136	193	216	193	141	127
14	147	136	148	162	189	173	164	190	192	164	139	156	220	245	221	162	147
15	167	156	171	187	214	195	186	216	219	183	158	175	250	279	251	183	167
16	188	174	193	212	245	224	208	241	245	208	178	196	281	317	284	206	188
17	211	195	220	238	278	252	233	268	277	233	198	219	313	353	320	232	211
18	234	217	246	269	310	281	258	299	306	259	220	244	347	392	356	256	234
19	259	240	272	299	344	311	288	329	336	285	244	268	381	432	392	286	259
20	287	266	299	329	378	346	315	359	367	315	268	292	416	473	429	313	287
21	313	290	327	360	414	379	344	392	400	344	292	318	456	513	466	341	313
22	340	314	358	391	453	413	375	425	436	373	317	343	492	556	506	373	340
23	368	339	386	424	490	447	408	460	470	403	343	370	530	598	543	403	368
24	397	365	417	457	527	481	440	498	506	433	368	399	569	641	583	434	397
25	426	393	448	487	564	516	476	533	540	464	396	426	612	683	622	466	426
26	458	424	479	522	607	555	509	567	579	497	422	454	651	731	662	498	458
27	487	452	510	556	648	591	544	603	615	528	449	483	694	774	702	531	487
28	516	480	539	591	689	629	579	642	650	558	476	511	736	819	746	567	516
29	545	509	572	627	731	667	618	679	686	589	504	543	776	861	785	600	545

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

30	576	538	601	660	770	706	654	714	721	619	535	572	821	905	826	633	576
31	605	568	632	693	809	749	688	748	754	650	563	601	862	947	864	665	605
32	636	596	661	725	852	787	721	782	789	682	590	629	900	993	902	698	636
33	667	625	692	757	891	826	755	820	822	712	617	657	939	1036	941	732	667
34	695	652	721	790	930	864	787	853	855	741	643	689	978	1073	979	764	695
35	726	680	750	818	969	903	823	886	884	770	669	717	1016	1113	1017	798	726
36	756	707	774	850	1006	945	854	919	914	799	697	745	1052	1152	1053	829	756
37	788	735	805	880	1048	983	885	950	946	830	723	772	1093	1192	1090	861	788
38	818	764	833	909	1085	1020	915	986	976	858	747	800	1127	1230	1126	894	818
39	847	792	859	937	1120	1061	949	1017	1004	888	773	827	1163	1268	1164	924	847
40	872	818	884	967	1158	1092	981	1049	1034	916	796	854	1201	1302	1196	954	872
41	900	844	910	993	1194	1128	1009	1081	1062	945	823	880	1236	1339	1230	985	900
42	928	872	936	1020	1231	1166	1043	1112	1092	976	848	905	1275	1374	1262	1016	928
43	952	896	962	1046	1271	1201	1073	1146	1123	1003	871	930	1309	1409	1290	1047	952
44	976	924	985	1073	1306	1234	1107	1176	1149	1030	898	956	1345	1442	1324	1081	976
45	1001	953	1010	1100	1340	1271	1138	1207	1178	1058	922	980	1380	1477	1353	1110	1001
46	1025	980	1031	1123	1374	1304	1169	1237	1208	1087	946	1005	1414	1510	1383	1141	1025
47	1049	1007	1055	1148	1409	1338	1199	1265	1235	1114	970	1028	1445	1542	1411	1171	1049
48	1075	1034	1077	1171	1442	1371	1229	1299	1262	1141	993	1054	1479	1572	1440	1200	1075
49	1098	1059	1100	1195	1475	1406	1262	1326	1288	1166	1017	1078	1509	1599	1468	1227	1098
50	1121	1085	1121	1217	1506	1442	1289	1356	1312	1194	1040	1102	1544	1630	1496	1254	1121
51	1146	1108	1144	1241	1542	1473	1316	1383	1338	1219	1062	1125	1574	1658	1526	1283	1146
52	1168	1131	1166	1265	1571	1504	1345	1408	1361	1242	1083	1147	1608	1688	1554	1310	1168
53	1190	1154	1187	1287	1604	1536	1372	1437	1385	1267	1104	1172	1637	1717	1581	1334	1190
54	1212	1176	1209	1311	1636	1567	1402	1463	1408	1292	1125	1194	1669	1744	1609	1358	1212
55	1237	1197	1230	1334	1663	1602	1426	1487	1431	1317	1147	1215	1699	1770	1633	1385	1237
56	1260	1221	1251	1356	1697	1633	1451	1510	1452	1339	1167	1238	1727	1800	1661	1407	1260
57	1284	1243	1271	1379	1724	1662	1475	1537	1471	1360	1186	1260	1756	1829	1689	1432	1284
58	1304	1263	1292	1397	1752	1691	1499	1559	1490	1381	1204	1280	1786	1855	1713	1456	1304
59	1325	1281	1310	1417	1779	1719	1526	1581	1508	1401	1224	1301	1813	1879	1733	1479	1325
60	1344	1302	1328	1435	1805	1750	1547	1604	1524	1421	1243	1321	1838	1905	1756	1499	1344
61	1362	1323	1345	1454	1835	1778	1569	1624	1542	1442	1259	1338	1865	1927	1778	1522	1362

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

62	1381	1340	1360	1471	1860	1804	1593	1646	1556	1460	1275	1356	1890	1950	1798	1543	1381
63	1401	1358	1376	1486	1882	1830	1613	1664	1570	1478	1294	1371	1914	1971	1817	1564	1401
64	1417	1376	1391	1503	1904	1856	1633	1684	1586	1495	1310	1386	1937	1990	1836	1584	1417
65	1433	1393	1405	1517	1927	1881	1652	1700	1602	1511	1324	1400	1960	2009	1853	1602	1433
66	1449	1410	1419	1529	1949	1902	1670	1721	1612	1525	1339	1413	1983	2024	1871	1620	1449
67	1464	1427	1432	1541	1970	1919	1690	1736	1624	1539	1352	1426	2004	2040	1888	1640	1464
68	1477	1446	1446	1554	1989	1937	1707	1749	1637	1555	1367	1438	2022	2056	1903	1659	1477
69	1490	1462	1457	1566	2007	1954	1723	1763	1649	1567	1378	1449	2041	2071	1919	1676	1490
70	1501	1476	1469	1576	2020	1969	1737	1778	1658	1580	1388	1461	2061	2083	1935	1690	1501
71	1513	1491	1481	1588	2036	1982	1752	1792	1668	1591	1398	1473	2076	2095	1946	1705	1513
72	1524	1503	1491	1597	2054	1996	1765	1804	1679	1603	1411	1482	2090	2106	1957	1721	1524
73	1535	1516	1501	1606	2068	2012	1777	1815	1690	1613	1420	1492	2106	2118	1969	1733	1535
74	1543	1527	1509	1615	2080	2025	1789	1829	1697	1625	1427	1501	2122	2128	1982	1746	1543
75	1552	1539	1517	1622	2092	2038	1801	1839	1703	1635	1438	1511	2135	2138	1992	1756	1552
76	1561	1547	1527	1630	2106	2047	1810	1849	1712	1646	1447	1520	2145	2148	2002	1767	1561
77	1568	1555	1535	1636	2117	2056	1821	1859	1721	1655	1454	1527	2155	2156	2010	1777	1568
78	1577	1562	1540	1643	2128	2067	1829	1869	1729	1664	1460	1534	2164	2164	2020	1784	1577
79	1584	1570	1546	1648	2136	2076	1836	1878	1734	1671	1465	1540	2175	2171	2029	1792	1584
80	1589	1577	1550	1655	2146	2086	1844	1883	1740	1678	1472	1545	2184	2177	2035	1799	1589
81	1594	1581	1556	1660	2153	2092	1851	1889	1748	1686	1478	1549	2190	2184	2040	1806	1594
82	1598	1585	1562	1663	2159	2097	1857	1896	1753	1691	1482	1553	2196	2188	2045	1812	1598
83	1602	1589	1565	1665	2163	2101	1861	1902	1757	1694	1484	1555	2200	2193	2050	1817	1602
84	1605	1594	1569	1669	2167	2104	1866	1906	1757	1696	1486	1559	2204	2196	2053	1820	1605
85	1609	1596	1570	1673	2174	2108	1870	1906	1759	1701	1489	1562	2208	2197	2058	1823	1609
86	1610	1599	1571	1675	2178	2112	1873	1908	1764	1705	1492	1563	2213	2198	2061	1825	1610
87	1610	1600	1573	1676	2180	2115	1874	1911	1767	1708	1493	1563	2214	2199	2060	1826	1610
88	1609	1600	1574	1676	2180	2116	1875	1912	1767	1708	1494	1564	2216	2200	2061	1828	1609
89	1610	1600	1575	1676	2180	2116	1875	1913	1767	1708	1494	1563	2215	2201	2061	1828	1610
90	1611	1599	1575	1676	2181	2115	1876	1911	1766	1706	1495	1562	2214	2203	2060	1828	1611
91	1611	1599	1576	1676	2181	2114	1876	1909	1767	1706	1495	1562	2215	2201	2061	1827	1611
92	1610	1600	1575	1678	2181	2114	1875	1909	1767	1705	1495	1561	2214	2200	2060	1825	1610
93	1608	1598	1573	1678	2179	2113	1872	1907	1766	1703	1493	1560	2212	2197	2059	1823	1608

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

94	1604	1596	1572	1676	2175	2112	1869	1905	1762	1701	1490	1559	2208	2194	2055	1820	1604
95	1602	1593	1569	1673	2171	2109	1867	1901	1758	1698	1488	1557	2204	2192	2051	1816	1602
96	1597	1589	1567	1669	2168	2105	1864	1896	1755	1695	1485	1552	2199	2189	2046	1813	1597
97	1594	1586	1565	1667	2164	2101	1860	1892	1751	1690	1482	1548	2195	2184	2040	1808	1594
98	1590	1582	1561	1664	2158	2095	1855	1887	1750	1684	1479	1543	2189	2178	2035	1801	1590
99	1585	1579	1558	1662	2151	2091	1850	1882	1746	1678	1475	1538	2183	2173	2030	1794	1585
100	1580	1574	1553	1657	2146	2087	1842	1876	1740	1673	1469	1532	2174	2166	2023	1788	1580
101	1573	1566	1549	1652	2137	2081	1834	1870	1732	1666	1463	1526	2165	2160	2015	1781	1573
102	1565	1559	1544	1646	2128	2071	1825	1861	1724	1658	1455	1519	2152	2152	2007	1772	1565
103	1557	1550	1537	1641	2118	2061	1816	1851	1718	1650	1448	1511	2141	2143	1997	1764	1557
104	1548	1542	1530	1635	2106	2050	1804	1840	1712	1641	1439	1502	2129	2133	1988	1752	1548
105	1542	1533	1522	1630	2094	2039	1796	1828	1704	1630	1431	1493	2117	2123	1978	1741	1542
106	1532	1524	1514	1624	2081	2027	1785	1816	1696	1619	1422	1482	2105	2113	1967	1728	1532
107	1522	1515	1506	1616	2068	2016	1772	1804	1686	1609	1412	1471	2091	2103	1957	1716	1522
108	1512	1502	1498	1607	2054	2004	1758	1792	1677	1597	1400	1460	2077	2091	1944	1704	1512
109	1501	1489	1489	1597	2038	1990	1743	1778	1666	1585	1389	1448	2059	2079	1930	1687	1501
110	1489	1475	1479	1588	2021	1974	1729	1765	1654	1573	1378	1436	2042	2066	1916	1674	1489
111	1475	1461	1467	1579	2004	1959	1712	1749	1644	1560	1364	1423	2023	2051	1904	1657	1475
112	1462	1445	1456	1568	1989	1944	1697	1734	1633	1546	1351	1411	2004	2037	1888	1638	1462
113	1449	1429	1445	1558	1969	1926	1679	1718	1620	1531	1337	1399	1983	2023	1872	1620	1449
114	1435	1412	1433	1545	1948	1910	1661	1702	1605	1516	1323	1384	1961	2008	1856	1604	1435
115	1421	1395	1420	1532	1927	1890	1641	1684	1592	1501	1308	1370	1938	1992	1838	1584	1421
116	1404	1376	1406	1519	1906	1870	1620	1667	1578	1485	1291	1355	1917	1973	1820	1565	1404
117	1387	1358	1393	1504	1881	1845	1600	1648	1562	1470	1276	1339	1895	1954	1802	1542	1387
118	1369	1341	1378	1489	1858	1820	1580	1630	1547	1453	1258	1321	1869	1933	1780	1523	1369
119	1348	1322	1362	1475	1834	1795	1558	1611	1533	1436	1242	1302	1843	1911	1759	1503	1348
120	1329	1305	1345	1457	1811	1770	1535	1591	1517	1417	1225	1284	1817	1888	1738	1480	1329
121	1309	1285	1330	1439	1785	1740	1514	1570	1498	1397	1208	1264	1791	1860	1715	1458	1309
122	1288	1266	1309	1421	1757	1713	1492	1547	1481	1378	1190	1244	1763	1834	1688	1434	1288
123	1264	1245	1290	1401	1731	1686	1467	1526	1463	1355	1170	1221	1735	1808	1662	1411	1264
124	1242	1225	1271	1379	1704	1654	1443	1502	1444	1334	1152	1200	1707	1782	1636	1388	1242
125	1219	1206	1252	1358	1676	1624	1419	1479	1424	1313	1134	1178	1676	1754	1612	1363	1219

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

126	1198	1185	1233	1336	1645	1594	1394	1453	1405	1292	1115	1154	1648	1727	1583	1337	1198
127	1177	1165	1212	1314	1616	1562	1366	1428	1384	1267	1093	1131	1618	1698	1556	1313	1177
128	1151	1140	1191	1290	1588	1528	1341	1403	1363	1243	1074	1109	1589	1670	1526	1286	1151
129	1128	1117	1168	1267	1554	1497	1315	1374	1339	1219	1054	1083	1553	1638	1494	1258	1128
130	1107	1093	1146	1244	1524	1466	1285	1347	1316	1196	1029	1059	1521	1607	1465	1231	1107
131	1083	1069	1124	1221	1491	1434	1257	1319	1292	1172	1007	1035	1489	1576	1436	1203	1083
132	1060	1043	1102	1198	1460	1401	1229	1290	1268	1146	985	1010	1455	1542	1406	1176	1060
133	1035	1018	1081	1173	1426	1364	1200	1258	1240	1121	962	984	1420	1511	1379	1145	1035
134	1011	989	1057	1150	1395	1332	1168	1228	1214	1096	936	961	1387	1476	1347	1116	1011
135	984	961	1033	1124	1362	1297	1138	1198	1185	1067	912	936	1350	1440	1314	1084	984
136	959	934	1010	1100	1324	1264	1108	1164	1158	1041	887	909	1313	1405	1283	1050	959
137	933	908	985	1074	1289	1232	1077	1134	1130	1015	862	884	1277	1372	1253	1023	933
138	908	883	963	1047	1254	1199	1046	1104	1102	988	834	859	1239	1339	1220	991	908
139	879	856	936	1022	1219	1162	1011	1073	1075	957	809	834	1206	1303	1183	963	879
140	854	827	912	994	1180	1128	984	1041	1044	929	783	807	1169	1267	1151	935	854
141	822	803	887	964	1144	1093	950	1006	1016	901	757	780	1130	1230	1113	899	822
142	792	776	860	936	1106	1056	920	975	989	870	732	754	1096	1193	1076	867	792
143	763	748	834	907	1074	1017	889	941	958	841	707	726	1059	1152	1038	835	763
144	735	722	806	879	1032	981	859	912	928	816	681	696	1024	1115	1001	804	735
145	704	695	780	847	995	945	825	877	897	785	654	669	985	1072	962	770	704
146	676	669	752	817	956	904	793	844	861	753	628	642	945	1035	920	736	676
147	645	642	722	782	915	866	762	808	831	723	602	611	910	993	878	702	645
148	614	616	693	749	877	828	727	774	798	693	574	583	869	950	836	669	614
149	585	589	665	716	840	790	694	739	765	661	547	554	834	906	795	635	585
150	553	561	636	685	800	747	661	705	730	631	521	526	794	859	756	602	553
151	523	534	606	651	762	708	626	671	692	602	495	495	753	815	714	569	523
152	493	507	573	618	718	670	589	634	657	572	465	468	714	772	673	536	493
153	465	481	543	581	679	628	555	600	622	539	438	440	674	726	632	505	465
154	435	452	512	549	635	592	522	562	583	508	411	410	636	683	586	470	435
155	406	427	479	515	596	554	488	526	548	477	381	383	594	637	545	439	406
156	379	399	453	481	558	518	453	492	512	446	354	357	557	598	506	410	379
157	350	374	421	450	520	479	421	458	476	412	327	331	517	556	468	380	350

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

158	324	349	392	416	480	445	390	420	438	382	301	302	481	516	428	351	324
159	296	325	363	384	444	411	357	387	403	352	274	278	443	472	394	323	296
160	270	299	333	353	409	374	328	355	371	321	250	253	407	431	357	295	270
161	244	276	306	323	375	342	298	324	335	293	227	230	372	390	322	270	244
162	222	253	278	293	340	311	272	292	305	266	206	206	339	352	286	244	222
163	198	230	251	265	306	281	243	264	276	240	184	185	305	312	254	221	198
164	178	205	223	235	275	249	219	237	248	213	165	165	271	278	224	197	178
165	159	184	199	209	246	221	195	209	218	190	146	143	238	247	199	175	159
166	139	162	175	183	216	195	171	184	191	168	127	126	209	213	173	153	139
167	123	143	152	160	189	171	150	160	167	145	111	110	182	182	148	132	123
168	107	126	132	136	164	146	131	140	144	125	96	95	152	156	126	114	107
169	93	108	110	116	140	126	113	120	121	106	83	81	130	132	109	99	93
170	79	91	94	97	119	106	95	100	102	89	69	69	109	107	92	84	79
171	68	77	77	80	100	90	81	83	84	73	58	58	90	89	77	72	68
172	58	65	63	65	82	75	67	68	66	60	49	48	74	73	65	61	58
173	49	52	50	53	69	63	56	55	51	48	40	39	59	58	55	51	49
174	42	42	40	42	57	52	46	45	41	38	33	33	49	48	46	43	42
175	37	35	33	34	49	43	39	37	32	28	27	28	40	41	40	37	37
176	31	28	27	29	41	35	33	29	25	22	21	22	33	34	33	31	31
177	24	23	22	23	32	28	25	20	17	15	15	13	28	26	25	23	24
178	14	17	19	18	21	19	15	14	15	12	10	8	19	18	14	13	14
179	7	7	7	7	14	8	8	11	8	8	6	7	7	8	8	7	7
180	7	6	6	7	8	8	7	7	7	7	6	7	8	8	8	7	7

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People' s Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

2.4 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction BL-QP-033)*

Test date	2020-11-04	Test Ambient:	25.6 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED110HIDRODAREA830MOG (open)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC201002	120.0	60	0.920	109.76	0.994	7.28
6E-E1	277.0	60	0.435	110.65	0.918	14.45
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	4
Frequency (Hz)	60	R2	92	R10	83
CCT (K)	2943	R3	95	R11	80
Duv	-0.0013	R4	80	R12	73
Chromaticity (x, y)	x=0.4391 y=0.4014	R5	82	R13	84
Chromaticity (u', v')	u(u')=0.2531 v'=0.5206	R6	91	R14	98
Color Rendering Index (CRI)	82	R7	80	R15	73
R9	4	R8	56	--	--
Rf	84				
Rg	95				
Rcs,h1(%)	-12				

Photometric Measurement – Goniophotometer Method:

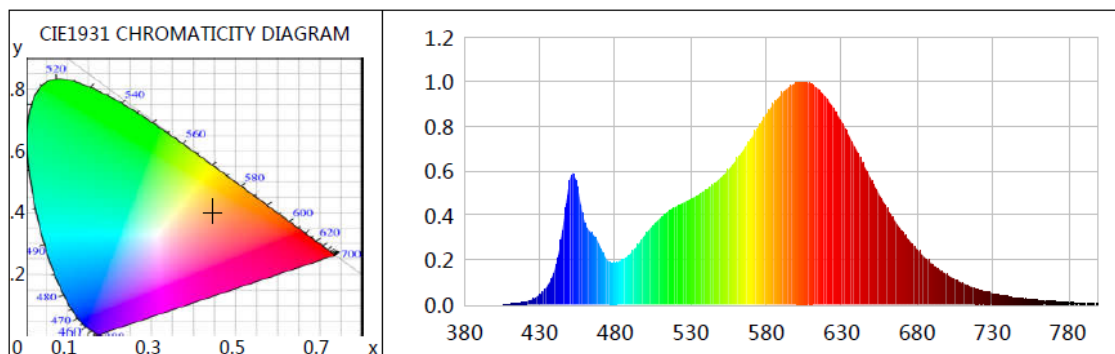
Parameter	Result		Rating	Tolerance
Test Voltage (V)	120.0	277.0	--	--
Frequency (Hz)	60	60	--	--
Total Luminous (lm)	15500.3	15830.7	15400	Comply -10%
Luminous Efficacy (lm/W)	141.22	143.07	140	Comply -3%
Most worst Luminous/Highest	140.08		--	--
Beam Angle (°)	--	--	--	--
Center Beam Candle Power (cd)	5225	--	--	--



Report No.: BLC2010026E-E

Certificate#4810.01

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.1437	525	0.4572	149.2974	670	0.3288	107.3711
385	0.0005	0.1725	530	0.4731	154.4964	675	0.2852	93.1477
390	0.0002	0.0653	535	0.4918	160.6044	680	0.2455	80.1538
395	0.0002	0.0520	540	0.5136	167.7319	685	0.2110	68.8981
400	0.0006	0.2114	545	0.5371	175.3970	690	0.1814	59.2452
405	0.0009	0.2920	550	0.5689	185.7614	695	0.1546	50.4906
410	0.0024	0.7959	555	0.6045	197.4034	700	0.1316	42.9896
415	0.0056	1.8292	560	0.6478	211.5526	705	0.1131	36.9232
420	0.0113	3.7041	565	0.6940	226.6428	710	0.0955	31.1733
425	0.0229	7.4838	570	0.7462	243.6696	715	0.0809	26.4059
430	0.0445	14.5424	575	0.8015	261.7335	720	0.0702	22.9319
435	0.0840	27.4360	580	0.8546	279.0634	725	0.0584	19.0730
440	0.1602	52.2988	585	0.9006	294.0801	730	0.0491	16.0288
445	0.3354	109.5205	590	0.9452	308.6709	735	0.0416	13.5999
450	0.5628	183.7672	595	0.9758	318.6406	740	0.0369	12.0468
455	0.5247	171.3281	600	0.9966	325.4510	745	0.0305	9.9449
460	0.3628	118.4663	605	1.0000	326.5519	750	0.0257	8.3927
465	0.3154	102.9909	610	0.9900	323.2751	755	0.0221	7.2089
470	0.2569	83.8974	615	0.9653	315.2086	760	0.0197	6.4491
475	0.1963	64.1164	620	0.9265	302.5663	765	0.0174	5.6778
480	0.1872	61.1465	625	0.8751	285.7545	770	0.0148	4.8412
485	0.2026	66.1431	630	0.8202	267.8416	775	0.0127	4.1310
490	0.2273	74.2270	635	0.7571	247.2394	780	0.0096	3.1468
495	0.2684	87.6339	640	0.6904	225.4445	785	0.0072	2.3507
500	0.3149	102.8408	645	0.6214	202.9201	790	0.0082	2.6817
505	0.3551	115.9508	650	0.5554	181.3564	795	0.0057	1.8691
510	0.3899	127.3369	655	0.4924	160.7970	800	0.0050	1.6364
515	0.4178	136.4319	660	0.4324	141.1863			
520	0.4394	143.4779	665	0.3778	123.3689			

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

TM30

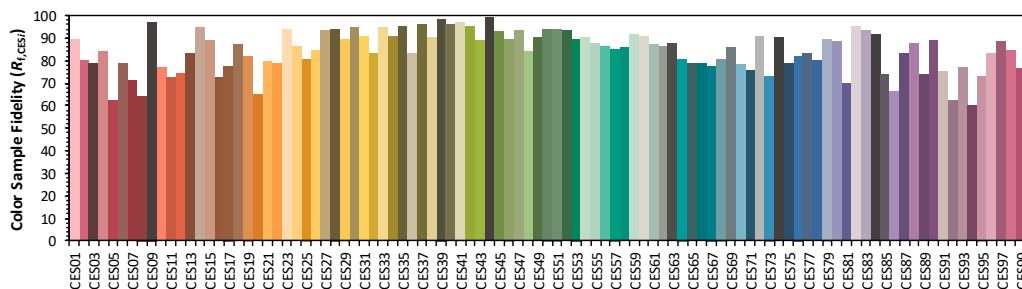
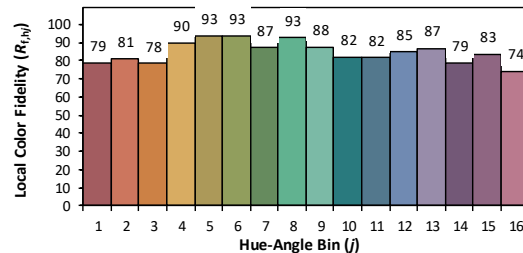
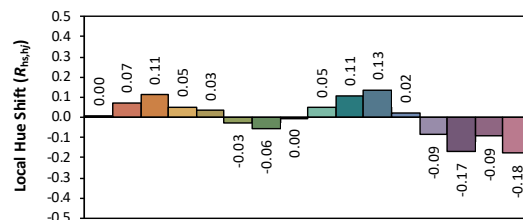
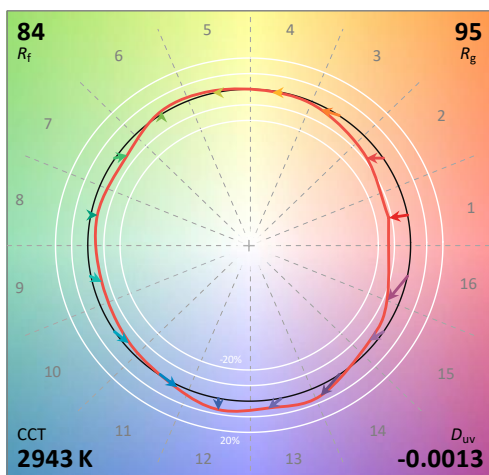
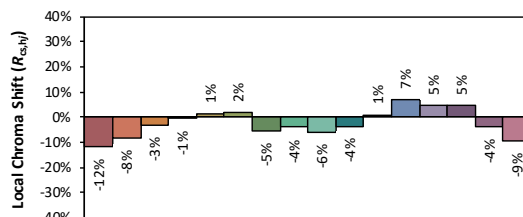
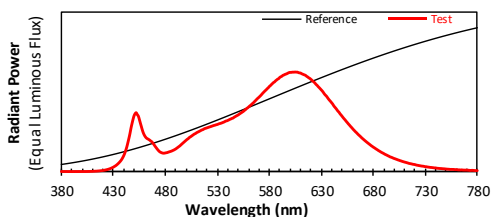
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: LEDVANCE LLC

Date: 2020/11/6

Model: LED110HIDRODAREA830MOG (open)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4391
 y 0.4014
 u' 0.2531
 v' 0.5206

CIE 13.3-1995
(CRI)

R_a 82
 R_g 4

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	4,118.0	26.6%	26.6%
0-40	6,704.6	43.3%	43.3%
0-60	11,702.1	75.5%	75.5%
60-90	3,529.4	22.8%	22.8%
70-100	1,754.4	11.3%	11.3%
90-120	170.5	1.1%	1.1%
0-90	15,231.5	98.3%	98.3%
90-180	267.6	1.7%	1.7%
0-180	15,499.0	100%	100%

Lumens Per Zone

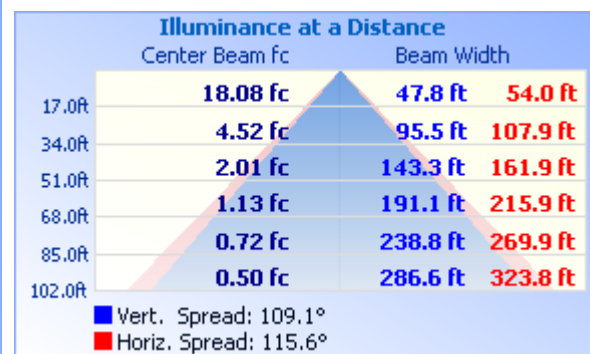
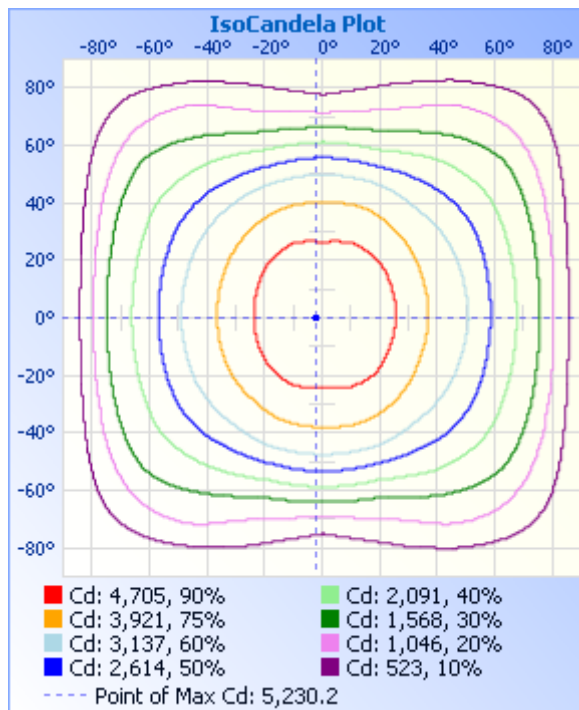
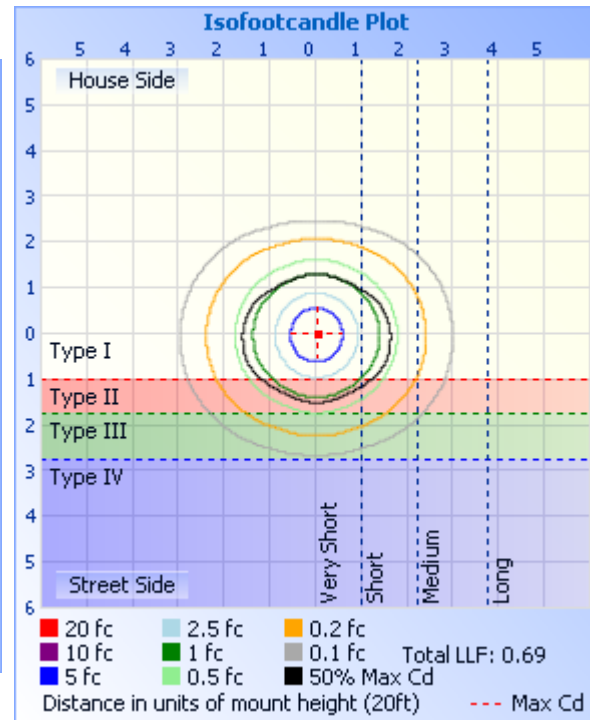
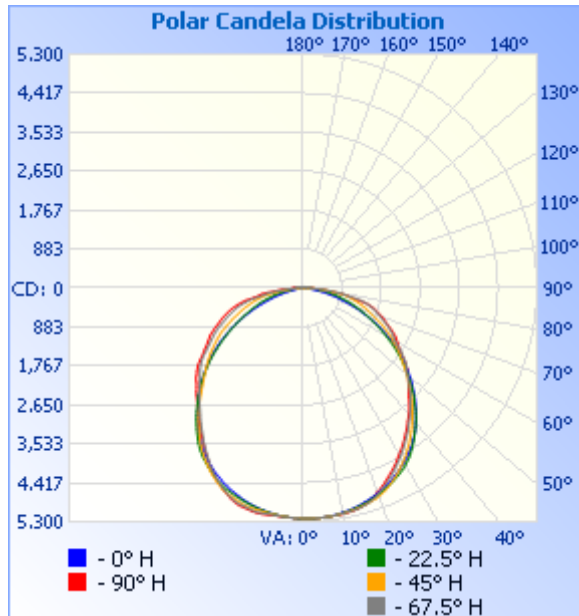
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	495.9	3.2%	90-100	91.7	0.6%
10-20	1,439.0	9.3%	100-110	43.4	0.3%
20-30	2,183.1	14.1%	110-120	35.4	0.2%
30-40	2,586.6	16.7%	120-130	32.0	0.2%
40-50	2,624.9	16.9%	130-140	24.1	0.2%
50-60	2,372.6	15.3%	140-150	18.2	0.1%
60-70	1,866.6	12.0%	150-160	12.5	0.1%
70-80	1,232.3	8.0%	160-170	7.6	0%
80-90	430.5	2.8%	170-180	2.6	0%



Certificate#4810.01

Report No.: BLC2010026E-E

Photometric Data



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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225	5225
1	5227	5227	5226	5226	5226	5229	5222	5224	5222	5223	5218	5221	5220	5224	5224	5226	5227
2	5226	5230	5225	5227	5230	5225	5223	5218	5218	5215	5215	5216	5216	5221	5221	5225	5226
3	5224	5227	5224	5227	5226	5224	5217	5212	5213	5212	5210	5211	5213	5219	5220	5222	5224
4	5220	5227	5223	5224	5224	5221	5213	5204	5205	5201	5202	5203	5207	5215	5219	5218	5220
5	5218	5220	5221	5219	5221	5214	5207	5200	5197	5195	5194	5201	5204	5210	5212	5215	5218
6	5211	5216	5214	5215	5215	5207	5199	5189	5181	5183	5185	5195	5202	5207	5206	5207	5211
7	5203	5209	5208	5209	5211	5199	5192	5176	5170	5171	5174	5190	5196	5202	5201	5199	5203
8	5194	5200	5205	5205	5205	5194	5177	5162	5154	5160	5168	5185	5198	5198	5196	5188	5194
9	5182	5189	5192	5196	5202	5187	5166	5147	5138	5144	5156	5183	5199	5198	5187	5178	5182
10	5165	5180	5183	5187	5200	5177	5152	5132	5120	5126	5145	5183	5204	5199	5180	5163	5165
11	5151	5164	5174	5179	5191	5168	5140	5113	5101	5109	5134	5188	5207	5203	5171	5160	5151
12	5134	5152	5164	5175	5181	5163	5126	5096	5076	5091	5128	5181	5198	5202	5166	5145	5134
13	5118	5133	5150	5166	5168	5151	5112	5074	5055	5069	5122	5167	5187	5195	5155	5125	5118
14	5099	5114	5138	5154	5151	5137	5093	5048	5029	5049	5115	5145	5172	5177	5152	5103	5099
15	5080	5096	5126	5138	5130	5116	5077	5028	5002	5028	5098	5125	5155	5160	5148	5088	5080
16	5051	5079	5109	5117	5102	5091	5059	5003	4976	5003	5075	5112	5143	5145	5133	5068	5051
17	5030	5056	5092	5088	5067	5061	5034	4979	4944	4977	5048	5092	5122	5132	5108	5046	5030
18	5001	5030	5070	5056	5018	5018	5007	4951	4913	4955	5019	5063	5088	5110	5084	5024	5001
19	4978	5007	5049	5014	4972	4974	4980	4921	4879	4927	4994	5022	5040	5080	5058	5003	4978
20	4943	4978	5025	4969	4920	4928	4946	4889	4847	4901	4969	4978	4993	5041	5031	4981	4943
21	4914	4954	4994	4919	4873	4876	4900	4858	4811	4875	4938	4931	4945	4988	5011	4959	4914
22	4884	4925	4954	4865	4822	4826	4856	4821	4776	4845	4904	4877	4896	4939	4982	4935	4884
23	4852	4893	4911	4814	4768	4771	4800	4786	4733	4808	4859	4821	4837	4890	4947	4908	4852
24	4815	4864	4863	4761	4709	4716	4748	4750	4690	4769	4810	4762	4782	4837	4906	4878	4815
25	4775	4825	4813	4710	4652	4662	4696	4707	4652	4728	4751	4706	4719	4776	4855	4840	4775
26	4736	4791	4762	4649	4598	4598	4637	4671	4608	4679	4703	4649	4652	4711	4798	4801	4736
27	4694	4758	4709	4592	4539	4536	4579	4629	4557	4629	4646	4581	4588	4645	4741	4759	4694
28	4655	4721	4652	4530	4485	4476	4523	4582	4508	4587	4588	4513	4520	4582	4688	4714	4655

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

29	4609	4683	4594	4473	4414	4415	4461	4532	4459	4535	4524	4432	4448	4512	4629	4677	4609
30	4564	4632	4540	4408	4354	4351	4400	4469	4407	4491	4459	4359	4376	4436	4566	4630	4564
31	4516	4582	4479	4344	4297	4287	4325	4407	4351	4437	4393	4284	4304	4368	4504	4589	4516
32	4472	4532	4416	4283	4238	4223	4259	4339	4296	4375	4328	4213	4231	4295	4431	4541	4472
33	4418	4472	4343	4220	4175	4159	4191	4268	4230	4314	4253	4141	4156	4217	4363	4488	4418
34	4367	4401	4287	4153	4106	4099	4121	4199	4168	4245	4175	4059	4097	4145	4292	4424	4367
35	4308	4337	4213	4092	4041	4034	4045	4116	4104	4167	4101	3987	4027	4074	4218	4356	4308
36	4244	4264	4138	4031	3979	3969	3965	4045	4034	4090	4015	3918	3958	4000	4144	4286	4244
37	4185	4196	4071	3959	3919	3898	3888	3969	3962	4008	3933	3848	3893	3930	4064	4215	4185
38	4123	4119	3996	3893	3845	3831	3813	3897	3884	3928	3855	3778	3819	3863	3985	4141	4123
39	4044	4049	3925	3828	3783	3764	3736	3813	3812	3847	3768	3703	3750	3794	3897	4067	4044
40	3970	3972	3849	3762	3730	3699	3659	3733	3734	3763	3687	3633	3693	3726	3814	3984	3970
41	3897	3894	3775	3696	3667	3633	3583	3651	3653	3681	3593	3568	3645	3652	3731	3905	3897
42	3824	3809	3697	3631	3603	3571	3497	3571	3575	3589	3508	3508	3582	3589	3648	3824	3824
43	3746	3729	3617	3570	3529	3501	3423	3493	3485	3504	3424	3452	3520	3531	3570	3747	3746
44	3662	3640	3544	3512	3454	3429	3346	3400	3403	3419	3334	3381	3467	3472	3495	3655	3662
45	3588	3559	3465	3437	3394	3354	3259	3314	3325	3333	3252	3315	3418	3409	3408	3569	3588
46	3503	3475	3381	3363	3331	3289	3183	3225	3240	3235	3170	3268	3364	3345	3327	3479	3503
47	3418	3389	3299	3291	3259	3216	3105	3137	3156	3146	3091	3219	3299	3295	3249	3404	3418
48	3338	3302	3221	3237	3205	3145	3033	3055	3062	3059	3021	3164	3246	3246	3173	3315	3338
49	3260	3206	3146	3164	3154	3080	2955	2955	2978	2968	2953	3095	3207	3183	3098	3225	3260
50	3175	3118	3063	3089	3114	3028	2878	2865	2893	2872	2882	3044	3168	3121	3032	3126	3175
51	3084	3031	2991	3028	3061	2979	2807	2771	2807	2778	2818	3006	3104	3078	2970	3035	3084
52	2995	2937	2919	2979	3000	2930	2734	2674	2717	2685	2755	2963	3059	3037	2902	2942	2995
53	2907	2843	2845	2931	2924	2870	2661	2579	2619	2587	2686	2908	3000	2988	2839	2850	2907
54	2817	2755	2767	2868	2864	2797	2589	2472	2525	2489	2624	2855	2937	2939	2787	2760	2817
55	2735	2666	2699	2799	2781	2725	2508	2379	2436	2381	2556	2789	2857	2885	2731	2656	2735
56	2636	2570	2630	2722	2698	2649	2439	2287	2327	2287	2484	2712	2774	2809	2660	2558	2636
57	2550	2463	2558	2657	2625	2564	2375	2191	2233	2190	2416	2624	2696	2735	2585	2462	2550
58	2453	2369	2473	2571	2568	2488	2311	2097	2132	2093	2350	2553	2634	2653	2520	2366	2453
59	2361	2277	2395	2486	2514	2422	2242	1996	2029	1999	2282	2485	2570	2580	2456	2264	2361
60	2265	2174	2341	2412	2468	2373	2160	1905	1925	1898	2211	2423	2509	2512	2392	2162	2265

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

61	2155	2080	2276	2360	2425	2317	2088	1815	1824	1806	2150	2362	2459	2444	2333	2067	2155
62	2049	1993	2199	2315	2376	2268	2021	1723	1717	1712	2080	2302	2409	2385	2256	1978	2049
63	1946	1894	2119	2269	2323	2213	1938	1642	1613	1633	1990	2247	2363	2337	2174	1891	1946
64	1834	1804	2046	2214	2257	2148	1862	1557	1512	1552	1918	2182	2309	2278	2099	1804	1834
65	1732	1713	1971	2153	2194	2080	1788	1475	1417	1467	1843	2115	2241	2216	2031	1724	1732
66	1631	1632	1890	2092	2127	2011	1718	1394	1315	1389	1766	2044	2171	2151	1953	1641	1631
67	1529	1550	1816	2030	2059	1947	1653	1320	1210	1314	1689	1973	2113	2079	1876	1568	1529
68	1414	1463	1740	1968	2002	1888	1584	1247	1113	1241	1616	1907	2050	2014	1788	1492	1414
69	1319	1386	1671	1906	1950	1825	1524	1174	1020	1168	1551	1844	1988	1948	1717	1416	1319
70	1218	1302	1610	1852	1901	1772	1469	1109	928	1097	1486	1784	1929	1881	1648	1345	1218
71	1116	1235	1551	1795	1845	1720	1407	1026	828	1029	1424	1716	1867	1821	1582	1277	1116
72	1033	1169	1497	1746	1787	1661	1349	957	746	956	1347	1655	1806	1759	1521	1197	1033
73	936	1089	1432	1691	1730	1601	1278	887	670	882	1287	1590	1746	1697	1454	1119	936
74	848	1016	1367	1626	1670	1532	1216	824	580	816	1219	1529	1673	1630	1386	1054	848
75	757	936	1305	1567	1594	1457	1159	755	503	752	1160	1453	1600	1562	1318	978	757
76	675	873	1241	1502	1520	1388	1091	695	435	690	1086	1356	1512	1489	1252	907	675
77	604	813	1178	1425	1398	1295	1032	640	372	636	1022	1274	1430	1419	1186	842	604
78	524	744	1117	1348	1223	1127	952	583	315	569	945	1172	1325	1318	1120	772	524
79	447	686	1056	1213	1104	989	875	534	260	512	864	1007	1139	1232	1051	715	447
80	380	624	988	1049	1037	914	761	469	214	462	774	911	1044	1066	981	650	380
81	316	566	909	955	953	847	623	415	172	402	643	854	999	949	888	591	316
82	261	512	805	884	820	709	554	369	139	351	562	788	933	891	804	537	261
83	210	461	662	775	679	570	469	303	111	298	507	643	787	831	681	478	210
84	170	412	591	638	580	482	365	232	83	239	411	515	639	712	597	413	170
85	134	349	506	544	473	392	289	172	71	186	307	453	553	577	536	369	134
86	108	294	399	447	379	303	210	129	63	137	252	346	471	497	438	295	108
87	87	227	316	340	291	219	149	93	48	97	175	262	356	399	345	232	87
88	73	179	238	261	233	196	125	71	26	74	146	220	267	294	274	186	73
89	58	124	165	218	212	178	116	53	20	60	129	205	235	228	207	142	58
90	42	92	141	206	198	165	103	50	19	50	121	190	228	210	148	101	42
91	31	67	120	184	179	156	97	45	19	45	114	179	204	193	136	72	31
92	24	53	113	170	168	143	87	34	15	41	102	169	197	180	126	70	24

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

93	24	49	101	157	156	132	77	38	19	38	89	155	185	164	113	54	24
94	21	40	92	152	160	121	69	30	18	40	85	148	176	157	103	48	21
95	22	43	86	139	145	105	56	32	20	28	77	135	165	146	90	44	22
96	24	28	73	122	118	88	56	31	20	32	68	116	149	128	80	37	24
97	23	29	73	102	108	85	50	28	18	32	51	102	135	117	71	40	23
98	26	33	59	93	98	80	48	27	17	27	51	97	111	98	69	36	26
99	21	26	54	86	89	72	46	19	18	26	54	84	104	88	64	33	21
100	19	30	52	88	86	69	43	24	21	31	42	82	100	83	58	31	19
101	19	31	50	79	85	63	39	28	18	32	46	73	89	79	53	31	19
102	22	32	49	68	72	58	37	27	17	31	37	65	85	66	48	28	22
103	19	29	42	65	68	52	30	25	20	30	37	59	78	62	42	28	19
104	19	29	39	61	71	46	33	28	22	27	37	59	60	55	42	23	19
105	26	27	41	60	80	36	32	30	19	29	37	57	62	52	35	26	26
106	19	33	32	57	79	40	33	15	19	28	33	51	67	42	29	30	19
107	23	31	39	51	64	17	35	30	22	30	40	43	73	46	27	33	23
108	25	27	30	49	57	18	29	31	20	31	35	45	61	42	31	32	25
109	23	27	35	40	50	24	35	28	19	29	33	38	60	36	34	31	23
110	24	29	43	42	48	26	34	28	23	30	39	38	50	35	32	27	24
111	22	27	44	47	38	21	41	30	20	22	43	44	54	32	34	26	22
112	21	31	43	43	37	31	40	28	16	25	40	41	50	34	35	26	21
113	22	31	43	45	39	36	37	18	21	24	44	41	48	36	37	30	22
114	21	28	43	47	46	34	35	24	18	20	41	45	45	38	37	30	21
115	25	28	45	49	44	34	37	27	24	28	34	46	45	37	38	27	25
116	22	26	40	46	48	42	33	29	21	27	40	49	47	36	41	20	22
117	20	25	50	49	48	44	29	23	23	27	45	42	48	33	43	29	20
118	26	23	49	55	57	47	35	28	21	25	44	54	54	44	39	23	26
119	25	26	48	58	53	41	36	29	21	26	43	41	54	46	31	22	25
120	25	24	45	54	62	45	31	22	22	25	41	50	63	46	45	24	25
121	23	25	39	57	61	45	31	21	24	24	38	51	69	47	40	21	23
122	21	25	42	58	59	49	32	24	23	23	37	51	63	41	32	29	21
123	21	22	37	57	61	43	25	20	19	28	36	57	64	45	37	23	21
124	24	21	23	54	51	40	31	24	21	30	36	45	60	44	32	24	24

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

125	20	27	41	53	55	41	36	24	22	25	32	45	61	43	33	25	20
126	25	26	43	48	48	36	39	27	21	29	39	48	53	38	32	27	25
127	15	23	34	51	40	40	31	22	20	28	39	34	49	37	33	29	15
128	27	30	36	50	40	30	32	23	23	24	38	41	45	41	32	27	27
129	24	24	41	53	40	36	35	23	24	27	37	42	40	30	30	26	24
130	24	28	37	40	29	42	32	25	23	25	32	49	29	38	34	26	24
131	24	26	38	50	32	39	35	24	27	24	33	43	27	35	35	26	24
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133	25	26	32	43	29	44	29	25	25	23	38	38	34	41	34	27	25
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155	27	29	32	30	16	23	25	35	31	31	32	31	22	23	29	23	27
156	26	24	32	33	18	21	27	33	23	30	25	32	21	27	25	28	26

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

157	31	32	29	29	17	18	26	25	29	28	34	22	19	27	28	32	31
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159	27	22	32	33	17	16	22	27	28	32	31	32	19	26	22	30	27
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179	23	32	33	31	16	20	21	28	29	27	28	30	20	23	25	27	23
180	32	31	27	28	16	22	21	28	34	32	31	27	23	20	28	34	32

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

2.5 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction BL-QP-033)*

Test date	2020-11-04	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED110HIDRODAREA840MOG (open)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC201002	120.0	60	0.936	111.64	0.994	7.22
6E-E2	277.0	60	0.436	111.34	0.921	13.99
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	5
Frequency (Hz)	60	R2	89	R10	74
CCT (K)	4072	R3	95	R11	80
Duv	0.0007	R4	81	R12	60
Chromaticity (x, y)	x=0.3778 y=0.3766	R5	81	R13	83
Chromaticity (u', v')	u(u')=0.2234 v'=0.5011	R6	85	R14	97
Color Rendering Index (CRI)	83	R7	85	R15	74
R9	5	R8	63	--	--
Rf	84				
Rg	95				
Rcs,h1(%)	-12				

Photometric Measurement – Goniophotometer Method:

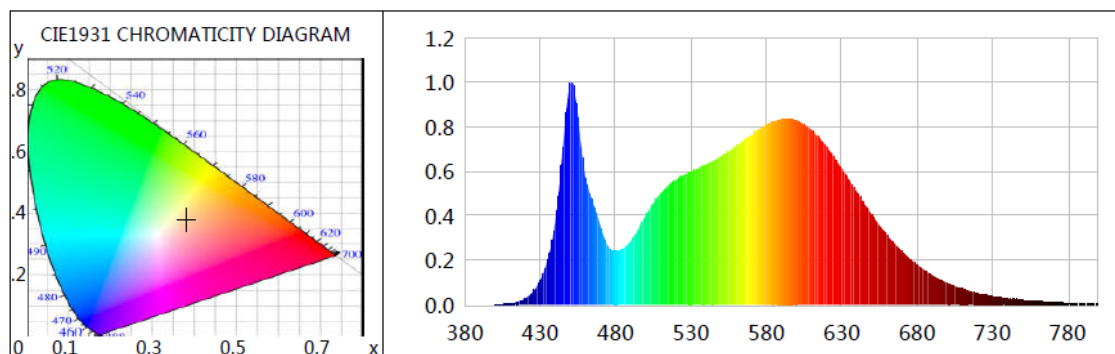
Parameter	Result		Rating	Tolerance
Test Voltage (V)	120.0	277.0	--	--
Frequency (Hz)	60	60	--	--
Total Luminous (lm)	16794	17013.9	16500	Comply -10%
Luminous Efficacy (lm/W)	150.43	152.81	150	Comply -3%
Most worst Luminous/Highest Watts	150.43		--	--



Report No.: BLC2010026E-E

Certificate#4810.01

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.0924	525	0.5821	202.8356	670	0.2389	83.2475
385	0.0006	0.2075	530	0.5976	208.2536	675	0.2078	72.3991
390	0.0005	0.1706	535	0.6127	213.4978	680	0.1793	62.4711
395	0.0009	0.3058	540	0.6319	220.1938	685	0.1554	54.1440
400	0.0013	0.4579	545	0.6450	224.7598	690	0.1332	46.4180
405	0.0023	0.7866	550	0.6667	232.3261	695	0.1138	39.6704
410	0.0060	2.0841	555	0.6889	240.0631	700	0.0975	33.9735
415	0.0133	4.6471	560	0.7144	248.9537	705	0.0844	29.4008
420	0.0284	9.9038	565	0.7395	257.6776	710	0.0722	25.1557
425	0.0572	19.9218	570	0.7632	265.9470	715	0.0614	21.4121
430	0.1102	38.3883	575	0.7887	274.8341	720	0.0522	18.1823
435	0.2048	71.3819	580	0.8101	282.3001	725	0.0444	15.4637
440	0.3757	130.9110	585	0.8220	286.4555	730	0.0376	13.1103
445	0.7078	246.6509	590	0.8337	290.5197	735	0.0320	11.1373
450	0.9962	347.1430	595	0.8346	290.8351	740	0.0282	9.8149
455	0.8396	292.5902	600	0.8296	289.0993	745	0.0235	8.1860
460	0.5698	198.5718	605	0.8108	282.5440	750	0.0205	7.1408
465	0.4583	159.7012	610	0.7870	274.2466	755	0.0176	6.1204
470	0.3484	121.3942	615	0.7530	262.3915	760	0.0142	4.9430
475	0.2613	91.0556	620	0.7110	247.7772	765	0.0132	4.6160
480	0.2408	83.9070	625	0.6627	230.9148	770	0.0109	3.8102
485	0.2541	88.5313	630	0.6122	213.3366	775	0.0101	3.5139
490	0.2853	99.4192	635	0.5605	195.3292	780	0.0088	3.0709
495	0.3396	118.3412	640	0.5080	177.0341	785	0.0064	2.2267
500	0.4004	139.5424	645	0.4547	158.4535	790	0.0063	2.1823
505	0.4551	158.5924	650	0.4042	140.8433	795	0.0060	2.0982
510	0.5021	174.9756	655	0.3571	124.4479	800	0.0040	1.3809
515	0.5365	186.9535	660	0.3141	109.4419			
520	0.5621	195.8789	665	0.2747	95.7405			

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Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

TM30

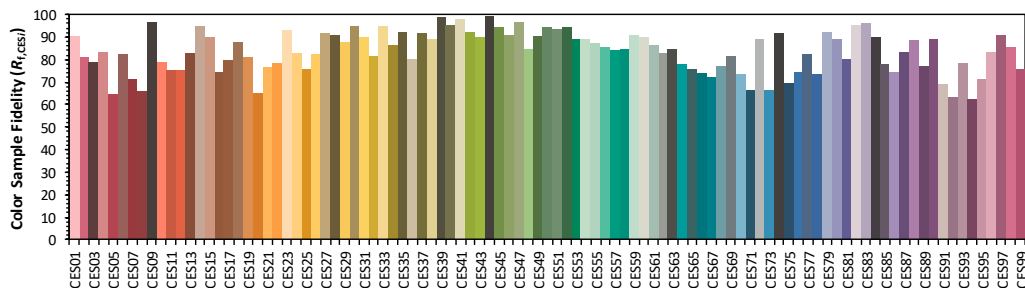
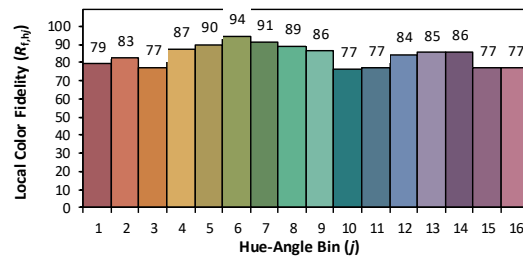
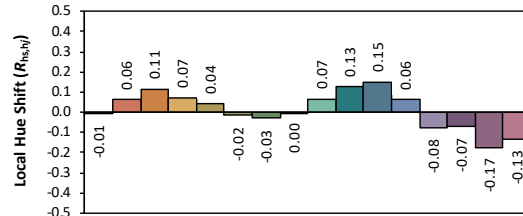
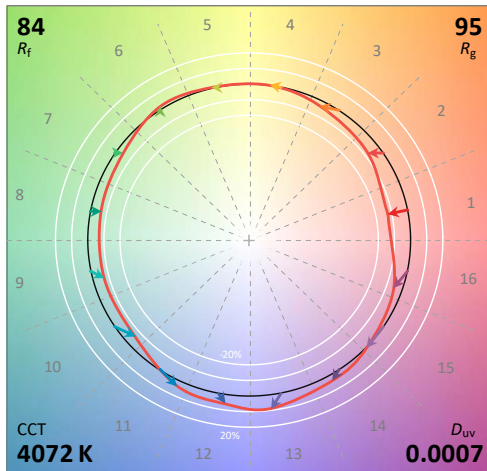
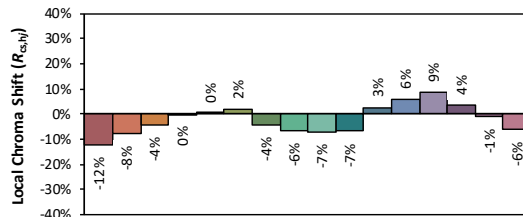
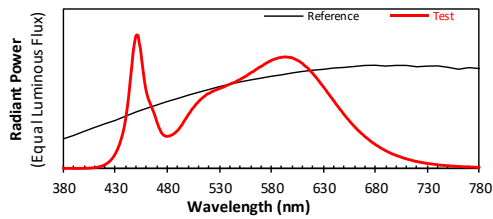
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: LEDVANCE LLC

Date: 2020/11/6

Model: LED110HIDRODAREA840MOG (open)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3778

y 0.3766

u' 0.2234

v' 0.5011

CIE 13.3-1995
(CRI)

R_a 83

R_g 5

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00

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Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	4,438.9	26.4%	26.4%
0-40	7,258.3	43.2%	43.2%
0-60	12,694.5	75.6%	75.6%
60-90	3,804.6	22.7%	22.7%
70-100	1,870.0	11.1%	11.1%
90-120	187.7	1.1%	1.1%
0-90	16,499.2	98.2%	98.3%
90-180	293.4	1.7%	1.7%
0-180	16,792.6	100%	100%

Lumens Per Zone

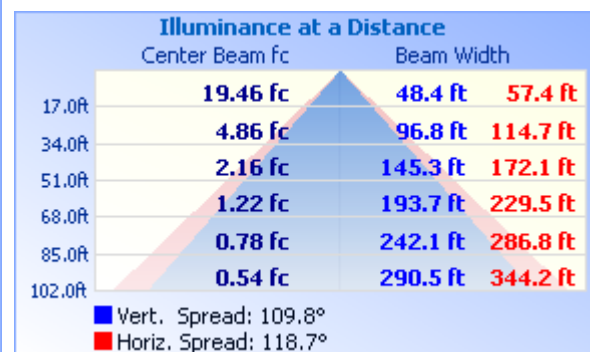
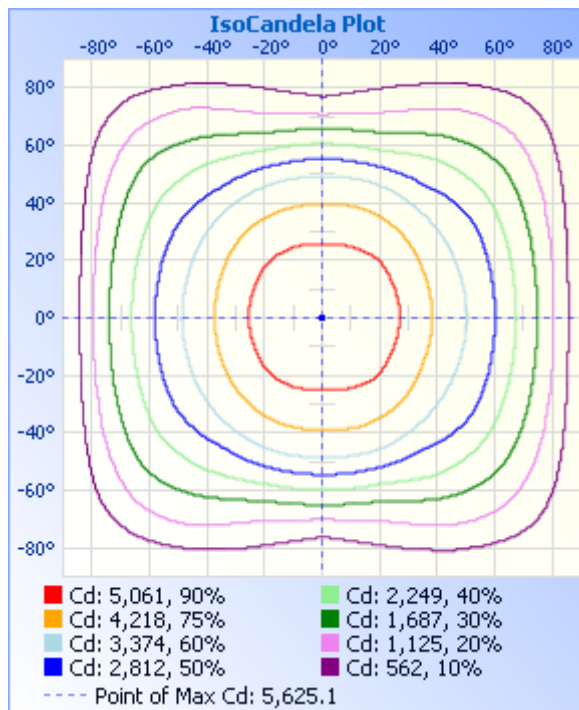
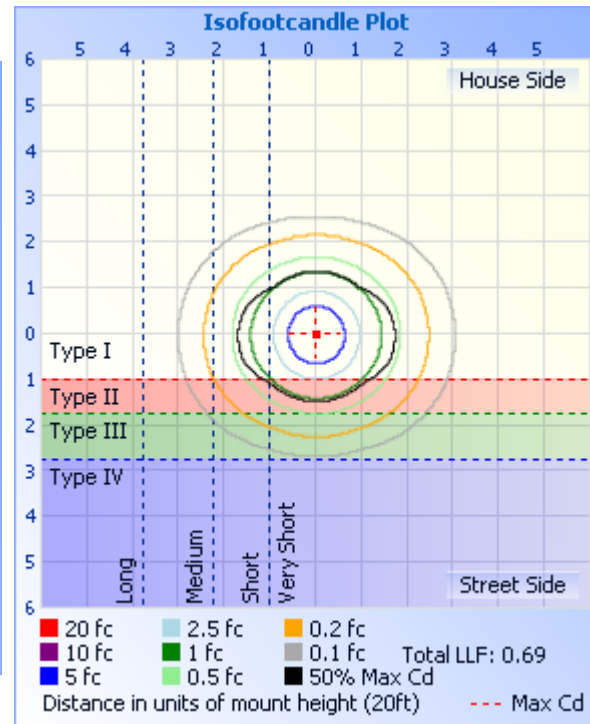
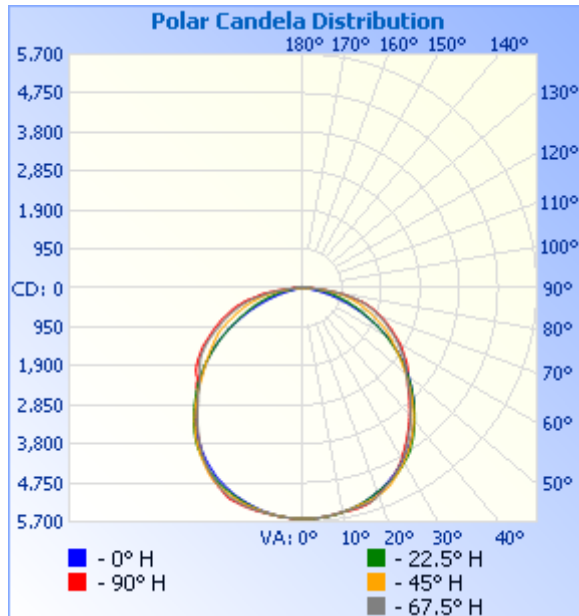
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	532.9	3.2%	90-100	100.5	0.6%
10-20	1,543.7	9.2%	100-110	49.3	0.3%
20-30	2,362.3	14.1%	110-120	37.9	0.2%
30-40	2,819.4	16.8%	120-130	34.5	0.2%
40-50	2,849.4	17.0%	130-140	26.7	0.2%
50-60	2,586.9	15.4%	140-150	19.9	0.1%
60-70	2,035.1	12.1%	150-160	13.5	0.1%
70-80	1,310.8	7.8%	160-170	8.4	0%
80-90	458.7	2.7%	170-180	2.8	0%



Certificate#4810.01

Report No.: BLC2010026E-E

Photometric Data



Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624	5624
1	5623	5622	5622	5621	5622	5622	5622	5618	5621	5623	5619	5622	5625	5621	5620	5622	5623
2	5623	5623	5621	5618	5622	5620	5620	5613	5619	5620	5618	5618	5624	5620	5620	5622	5623
3	5617	5620	5614	5613	5614	5615	5614	5610	5613	5614	5613	5614	5619	5619	5618	5618	5617
4	5614	5617	5610	5609	5614	5607	5608	5604	5607	5610	5606	5609	5610	5612	5615	5614	5614
5	5604	5609	5603	5602	5606	5602	5601	5593	5597	5601	5598	5603	5602	5608	5609	5609	5604
6	5597	5600	5595	5593	5594	5591	5587	5585	5587	5589	5588	5593	5596	5600	5602	5601	5597
7	5586	5591	5586	5579	5582	5577	5577	5574	5577	5580	5579	5579	5582	5592	5589	5587	5586
8	5575	5580	5574	5568	5568	5565	5565	5556	5554	5567	5565	5573	5576	5581	5578	5578	5575
9	5558	5566	5561	5554	5556	5552	5550	5541	5541	5557	5548	5559	5565	5570	5570	5565	5558
10	5547	5551	5545	5542	5544	5539	5532	5523	5525	5543	5534	5549	5558	5560	5555	5550	5547
11	5525	5529	5527	5528	5539	5529	5515	5506	5504	5518	5520	5538	5550	5546	5538	5542	5525
12	5511	5517	5509	5521	5543	5520	5494	5484	5481	5498	5503	5531	5543	5540	5524	5524	5511
13	5489	5492	5493	5515	5540	5520	5474	5462	5456	5472	5486	5520	5531	5534	5502	5495	5489
14	5468	5473	5475	5511	5533	5514	5457	5439	5433	5451	5471	5506	5523	5522	5489	5471	5468
15	5441	5447	5456	5501	5518	5506	5440	5412	5402	5425	5453	5493	5508	5504	5470	5448	5441
16	5418	5421	5447	5487	5504	5484	5427	5384	5379	5397	5439	5474	5494	5487	5457	5423	5418
17	5385	5388	5434	5473	5486	5470	5414	5352	5344	5370	5413	5453	5473	5473	5440	5400	5385
18	5356	5360	5420	5453	5453	5444	5389	5326	5315	5342	5388	5431	5461	5450	5415	5375	5356
19	5324	5326	5396	5421	5409	5409	5366	5290	5282	5312	5363	5409	5447	5430	5390	5344	5324
20	5291	5293	5370	5378	5357	5365	5337	5257	5245	5281	5335	5381	5413	5410	5363	5314	5291
21	5258	5264	5343	5323	5305	5313	5313	5225	5210	5251	5302	5342	5366	5378	5334	5282	5258
22	5219	5231	5319	5270	5264	5257	5281	5198	5166	5220	5271	5293	5311	5332	5304	5253	5219
23	5181	5204	5286	5221	5217	5208	5239	5164	5130	5182	5243	5240	5261	5278	5270	5218	5181
24	5144	5175	5244	5174	5167	5160	5183	5129	5086	5143	5209	5190	5207	5226	5238	5185	5144
25	5098	5142	5184	5120	5114	5102	5127	5094	5044	5100	5167	5133	5161	5170	5208	5147	5098
26	5056	5108	5127	5069	5054	5046	5070	5043	4989	5052	5119	5077	5104	5114	5160	5109	5056
27	5007	5066	5071	5010	5000	4993	5012	4999	4940	5008	5062	5020	5039	5057	5111	5061	5007
28	4957	5017	5017	4950	4939	4933	4956	4949	4891	4962	4998	4958	4976	4998	5048	5014	4957

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

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30	4856	4925	4902	4828	4808	4803	4826	4842	4783	4852	4874	4825	4840	4866	4927	4913	4856
31	4802	4870	4837	4763	4723	4732	4767	4793	4720	4794	4814	4752	4766	4793	4862	4860	4802
32	4742	4819	4775	4695	4648	4667	4700	4732	4661	4739	4748	4674	4685	4710	4800	4804	4742
33	4686	4763	4711	4621	4574	4590	4634	4664	4595	4684	4671	4596	4605	4636	4729	4749	4686
34	4625	4697	4648	4542	4501	4521	4564	4593	4537	4625	4607	4521	4526	4557	4656	4689	4625
35	4562	4617	4575	4467	4422	4435	4486	4519	4469	4556	4529	4436	4454	4477	4585	4630	4562
36	4498	4548	4505	4388	4344	4356	4412	4443	4398	4476	4454	4353	4374	4396	4506	4561	4498
37	4428	4471	4434	4313	4269	4279	4334	4354	4326	4399	4374	4265	4292	4316	4424	4487	4428
38	4359	4388	4352	4231	4192	4204	4258	4280	4256	4319	4286	4180	4209	4223	4352	4418	4359
39	4290	4306	4276	4154	4121	4115	4168	4199	4178	4237	4202	4093	4120	4144	4265	4333	4290
40	4215	4229	4192	4076	4044	4037	4083	4118	4098	4143	4115	4013	4030	4063	4172	4251	4215
41	4136	4141	4104	3994	3967	3961	3995	4035	4015	4053	4023	3924	3948	3981	4086	4168	4136
42	4055	4055	4013	3916	3879	3885	3905	3949	3924	3974	3931	3838	3872	3884	3999	4088	4055
43	3961	3964	3926	3836	3803	3803	3808	3859	3838	3881	3832	3753	3802	3801	3906	4006	3961
44	3888	3887	3833	3762	3727	3716	3716	3770	3753	3787	3737	3687	3720	3728	3815	3919	3888
45	3794	3794	3743	3673	3646	3632	3626	3682	3657	3700	3640	3613	3645	3652	3716	3821	3794
46	3709	3700	3644	3590	3566	3554	3532	3597	3569	3609	3543	3524	3593	3574	3619	3731	3709
47	3619	3614	3549	3513	3491	3476	3442	3496	3480	3515	3444	3454	3550	3493	3524	3639	3619
48	3535	3527	3458	3436	3432	3391	3354	3407	3393	3426	3346	3392	3490	3432	3433	3550	3535
49	3443	3431	3370	3355	3388	3310	3262	3317	3304	3321	3256	3346	3418	3379	3338	3454	3443
50	3355	3338	3276	3278	3330	3255	3179	3223	3203	3229	3176	3287	3370	3328	3249	3361	3355
51	3262	3247	3190	3226	3284	3205	3088	3115	3114	3130	3096	3228	3345	3263	3160	3263	3262
52	3175	3150	3099	3171	3231	3157	3004	3019	3023	3035	3025	3188	3307	3214	3086	3164	3175
53	3078	3053	3013	3122	3182	3097	2914	2917	2927	2935	2945	3156	3265	3178	3019	3062	3078
54	2981	2952	2935	3060	3126	3038	2834	2814	2831	2821	2867	3109	3210	3136	2947	2961	2981
55	2888	2859	2846	2999	3057	2990	2747	2720	2723	2721	2795	3061	3150	3095	2869	2855	2888
56	2788	2753	2766	2951	2982	2927	2667	2609	2624	2615	2736	3014	3084	3046	2804	2753	2788
57	2681	2645	2683	2880	2915	2853	2594	2505	2522	2517	2660	2948	3015	2991	2739	2646	2681
58	2576	2545	2608	2802	2857	2784	2525	2398	2416	2409	2583	2877	2944	2921	2664	2539	2576
59	2476	2446	2537	2730	2796	2711	2457	2297	2308	2296	2522	2798	2888	2835	2592	2430	2476
60	2363	2342	2477	2665	2732	2641	2388	2194	2187	2187	2465	2724	2811	2764	2523	2330	2363

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

61	2256	2226	2403	2595	2658	2574	2326	2083	2079	2085	2400	2644	2723	2695	2465	2219	2256
62	2139	2121	2337	2526	2582	2497	2261	1980	1962	1972	2339	2553	2640	2617	2410	2119	2139
63	2032	2022	2273	2451	2503	2425	2181	1879	1846	1872	2264	2470	2553	2526	2345	2015	2032
64	1911	1911	2191	2378	2435	2351	2093	1781	1731	1776	2166	2393	2486	2441	2259	1913	1911
65	1795	1813	2105	2306	2369	2278	2008	1675	1624	1689	2080	2304	2409	2362	2171	1814	1795
66	1679	1715	2025	2242	2296	2209	1927	1587	1513	1597	1994	2225	2331	2286	2083	1728	1679
67	1574	1625	1938	2180	2227	2137	1844	1506	1412	1515	1898	2154	2263	2210	1988	1634	1574
68	1469	1537	1860	2109	2153	2063	1775	1417	1295	1425	1816	2078	2186	2138	1905	1552	1469
69	1357	1456	1792	2042	2088	1994	1698	1324	1194	1345	1739	1993	2109	2057	1823	1468	1357
70	1241	1365	1720	1972	2017	1928	1630	1248	1092	1263	1664	1919	2029	1980	1744	1386	1241
71	1146	1278	1648	1908	1953	1851	1563	1170	996	1189	1582	1848	1955	1904	1672	1300	1146
72	1052	1192	1576	1843	1867	1778	1493	1094	884	1109	1513	1765	1880	1823	1587	1217	1052
73	947	1127	1511	1768	1798	1707	1423	1023	798	1032	1443	1685	1806	1752	1520	1140	947
74	853	1043	1439	1687	1731	1630	1341	942	715	957	1353	1607	1729	1662	1442	1070	853
75	760	970	1367	1610	1640	1550	1271	870	630	879	1278	1530	1660	1593	1362	991	760
76	679	892	1292	1542	1563	1454	1205	803	548	810	1203	1445	1544	1518	1285	917	679
77	598	831	1219	1446	1480	1369	1131	740	462	741	1124	1345	1472	1405	1207	852	598
78	509	770	1151	1355	1307	1278	1052	677	393	675	1044	1260	1371	1324	1135	782	509
79	440	702	1075	1258	1189	1110	960	615	328	617	941	1104	1212	1238	1051	718	440
80	360	639	987	1090	1129	1017	872	551	274	544	858	1004	1128	1087	965	645	360
81	300	577	893	1007	1039	944	753	489	222	485	758	941	1081	1001	867	583	300
82	250	513	793	929	882	825	639	430	175	423	655	848	973	940	784	519	250
83	202	450	676	806	722	664	576	367	144	368	587	705	819	825	676	454	202
84	162	396	599	651	632	541	454	301	110	295	478	582	683	704	600	393	162
85	127	332	503	562	521	451	351	232	90	230	370	502	598	575	520	328	127
86	99	259	380	457	420	359	278	176	75	184	303	385	473	502	402	263	99
87	82	201	296	362	305	266	195	125	61	134	218	299	383	382	325	209	82
88	71	149	218	267	260	228	151	86	49	94	169	249	284	288	237	158	71
89	58	105	160	237	237	207	134	66	30	77	150	230	262	243	176	114	58
90	41	79	141	216	217	190	124	54	21	64	139	215	245	224	152	85	41
91	24	65	131	198	197	171	113	34	21	43	129	202	230	213	139	68	24
92	21	49	119	176	182	154	104	44	22	45	121	192	212	195	126	55	21

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People' s Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

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95	23	43	88	148	153	122	67	33	21	41	84	151	191	162	99	37	23
96	20	42	82	124	136	102	66	35	18	38	80	133	178	144	86	42	20
97	24	37	68	109	115	94	57	33	20	34	75	118	149	126	80	40	24
98	23	36	70	102	103	85	57	30	25	35	69	108	129	114	77	39	23
99	24	34	67	94	95	82	50	31	22	29	60	98	115	99	58	28	24
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101	22	32	42	82	83	67	47	25	15	34	55	86	103	90	58	34	22
102	24	34	50	75	80	62	45	27	19	25	54	77	95	75	53	31	24
103	22	31	50	63	75	61	43	32	23	27	47	75	87	71	48	32	22
104	24	36	47	68	78	53	39	29	22	33	50	65	100	67	45	31	24
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107	27	26	40	42	66	46	33	29	20	32	36	64	106	57	38	33	27
108	23	34	45	51	51	38	32	27	24	30	40	46	83	54	34	29	23
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113	25	29	53	51	42	37	42	24	25	28	41	47	47	37	38	28	25
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116	23	22	45	50	54	43	42	26	21	28	51	52	46	44	41	22	23
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120	27	31	34	56	67	49	40	25	22	32	51	56	66	37	44	27	27
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122	21	28	42	58	67	52	37	24	23	26	37	54	65	50	39	27	21
123	22	26	39	63	69	50	34	25	22	30	40	57	62	46	41	25	22
124	27	28	41	57	58	50	37	28	22	28	40	55	54	51	34	29	27

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People' s Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

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129	29	28	43	52	34	36	34	25	27	24	43	40	44	38	33	27	29
130	31	27	41	52	31	38	37	29	25	29	43	50	36	33	37	24	31
131	29	32	34	49	25	42	32	27	28	32	42	44	32	40	33	27	29
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134	32	27	39	47	37	42	24	25	22	32	39	51	30	42	37	26	32
135	25	30	33	46	37	35	33	27	26	35	41	50	34	33	34	29	25
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Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People's Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

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161	33	35	27	31	18	26	22	25	28	35	35	33	23	25	28	29	33
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179	28	32	33	38	17	20	26	31	32	31	33	32	19	21	27	27	28
180	28	34	32	35	15	17	28	30	35	29	34	31	17	28	30	35	28

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
Guangzhou, People' s Republic of China. info@bellingtest.com

Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

2.6 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction BL-QP-033)*

Test date	2020-11-04	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED110HIDRODAREA850MOG (open)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC201002	120.0	60	0.925	110.30	0.994	7.13
6E-E3	277.0	60	0.434	110.01	0.915	14.49
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	4
Frequency (Hz)	60	R2	90	R10	75
CCT (K)	5024	R3	94	R11	81
Duv	0.0034	R4	82	R12	60
Chromaticity (x, y)	x=0.3451 y=0.3585	R5	82	R13	84
Chromaticity (u', v')	u(u')=0.2088 v'=0.4880	R6	85	R14	97
Color Rendering Index (CRI)	83	R7	86	R15	75
R9	4	R8	65	--	--
Rf	84		--		--
Rg	94		--		--
Rcs,h1(%)	-13		--		--

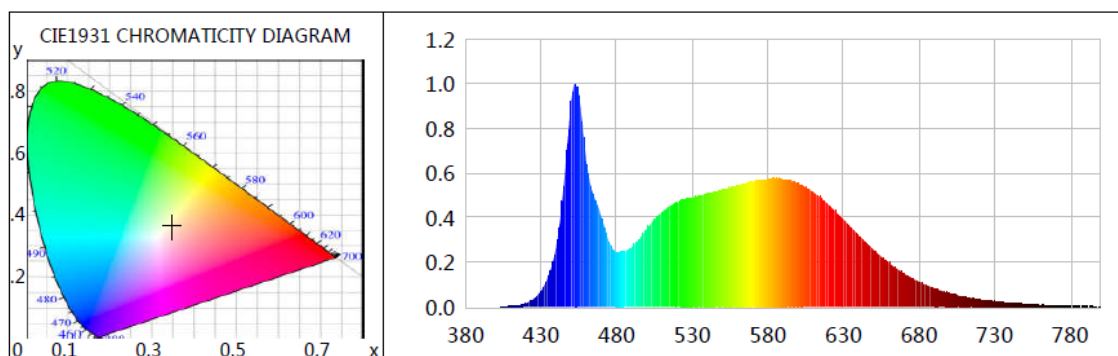
Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		Rating	Tolerance
Test Voltage (V)	120.0	277.0	--	--
Frequency (Hz)	60	60	--	--
Total Luminous (lm)	16777.7	16875.5	16500	Comply -10%
Luminous Efficacy (lm/W)	152.11	153.40	150	Comply -3%
Most worst Luminous/Highest Watts	152.11			--



Report No.: BLC2010026E-E

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0492	525	0.4807	223.1522	670	0.1499	69.6080
385	0.0004	0.1969	530	0.4900	227.4653	675	0.1302	60.4600
390	0.0003	0.1425	535	0.4990	231.6498	680	0.1121	52.0281
395	0.0008	0.3827	540	0.5078	235.7535	685	0.0971	45.0544
400	0.0007	0.3071	545	0.5134	238.3455	690	0.0828	38.4359
405	0.0018	0.8397	550	0.5243	243.4071	695	0.0720	33.4210
410	0.0031	1.4327	555	0.5324	247.1546	700	0.0612	28.4045
415	0.0074	3.4510	560	0.5441	252.6029	705	0.0528	24.5068
420	0.0168	7.8065	565	0.5531	256.7528	710	0.0442	20.5126
425	0.0352	16.3504	570	0.5614	260.6369	715	0.0379	17.5774
430	0.0720	33.4076	575	0.5697	264.4493	720	0.0328	15.2136
435	0.1409	65.4194	580	0.5730	265.9859	725	0.0271	12.5691
440	0.2693	125.0223	585	0.5729	265.9464	730	0.0230	10.6564
445	0.5421	251.6668	590	0.5711	265.1396	735	0.0199	9.2227
450	0.9216	427.8475	595	0.5652	262.3682	740	0.0176	8.1786
455	0.9453	438.8227	600	0.5531	256.7442	745	0.0151	6.9962
460	0.6440	298.9589	605	0.5358	248.7156	750	0.0124	5.7472
465	0.4930	228.8576	610	0.5136	238.4103	755	0.0107	4.9667
470	0.3955	183.6178	615	0.4888	226.9010	760	0.0082	3.7907
475	0.2897	134.4641	620	0.4585	212.8525	765	0.0070	3.2412
480	0.2446	113.5323	625	0.4237	196.6948	770	0.0068	3.1614
485	0.2487	115.4385	630	0.3920	181.9839	775	0.0056	2.6157
490	0.2668	123.8710	635	0.3555	165.0130	780	0.0056	2.6009
495	0.3040	141.1389	640	0.3203	148.6770	785	0.0040	1.8660
500	0.3503	162.6227	645	0.2875	133.4551	790	0.0040	1.8682
505	0.3915	181.7310	650	0.2550	118.3945	795	0.0025	1.1771
510	0.4256	197.5653	655	0.2248	104.3704	800	0.0019	0.9004
515	0.4519	209.7853	660	0.1970	91.4689			
520	0.4689	217.6615	665	0.1723	80.0019			

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

TM30

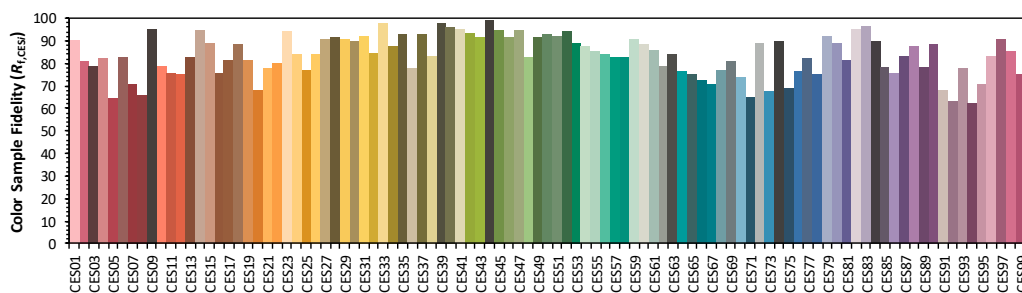
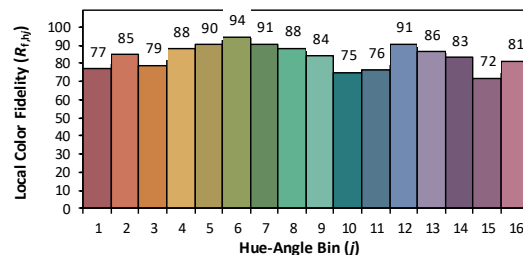
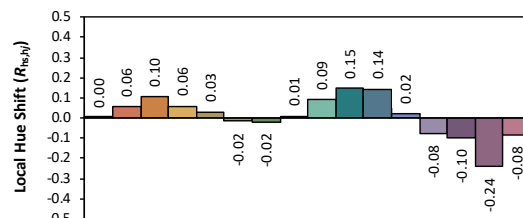
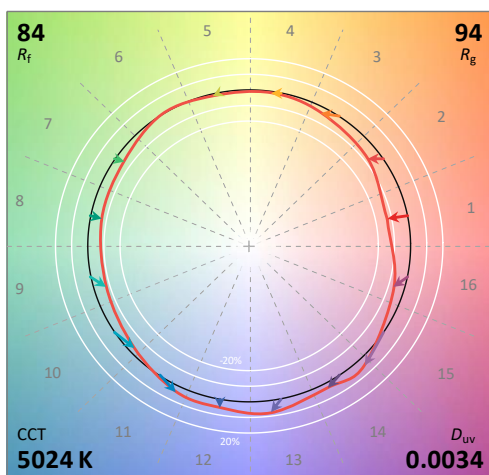
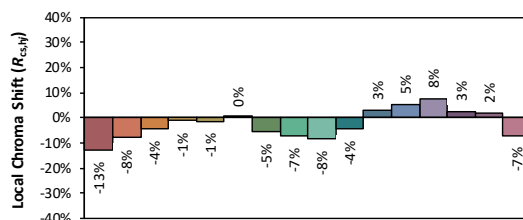
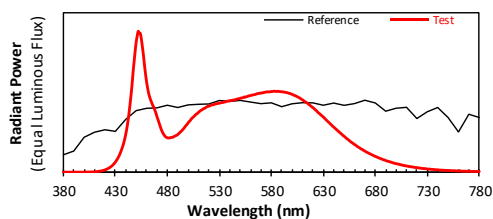
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: LEDVANCE LLC

Date: 2020/11/6

Model: LED110HIDRODAREA850MOG (open)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3451
 y 0.3585
 u' 0.2088
 v' 0.4880

CIE 13.3-1995
(CRI)

R_a 83
 R_g 4

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00



Report No.: BLC2010026E-E

Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	4,431.9	26.4%	26.4%
0-40	7,234.7	43.1%	43.1%
0-60	12,643.9	75.4%	75.4%
60-90	3,829.6	22.8%	22.8%
70-100	1,900.3	11.3%	11.3%
90-120	193.5	1.2%	1.2%
0-90	16,473.6	98.2%	98.2%
90-180	302.7	1.8%	1.8%
0-180	16,776.3	100%	100%

Lumens Per Zone

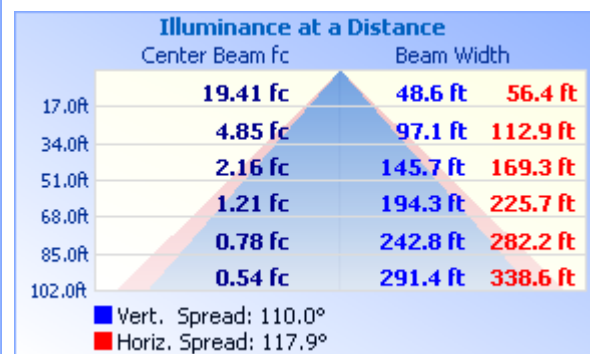
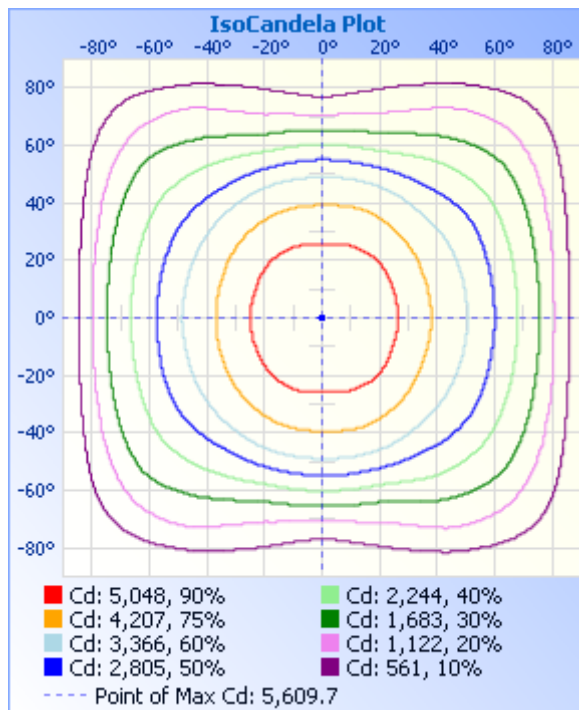
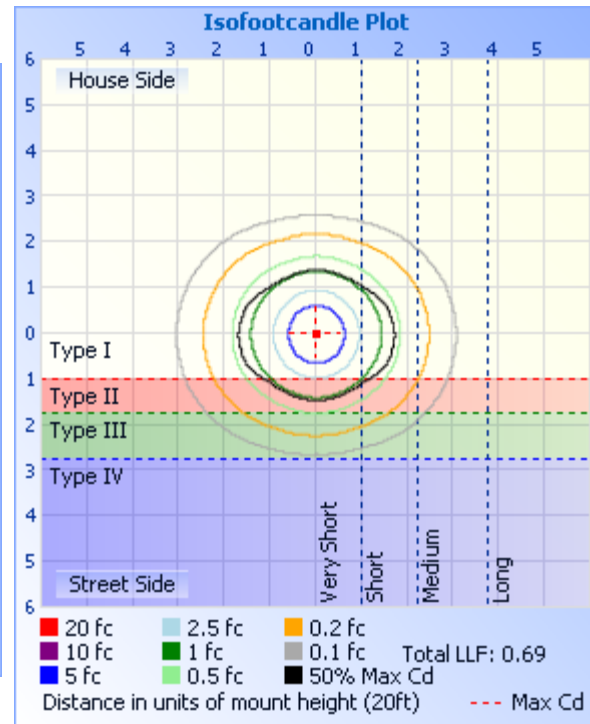
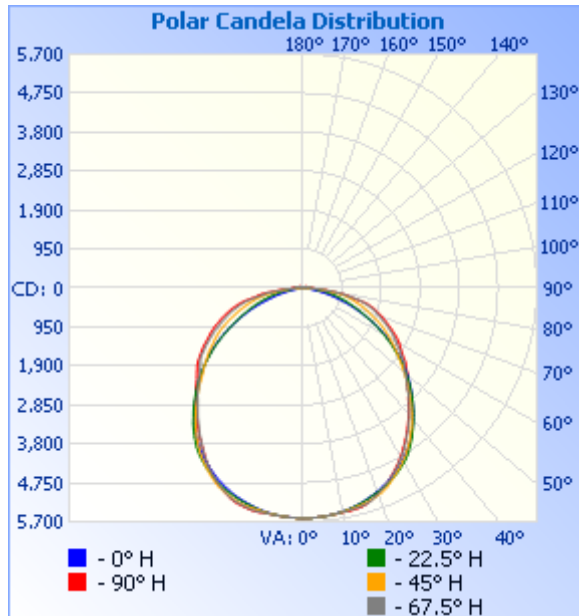
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	532.1	3.2%	90-100	103.3	0.6%
10-20	1,544.8	9.2%	100-110	51.2	0.3%
20-30	2,355.0	14.0%	110-120	39.0	0.2%
30-40	2,802.8	16.7%	120-130	35.8	0.2%
40-50	2,837.0	16.9%	130-140	27.3	0.2%
50-60	2,572.2	15.3%	140-150	20.6	0.1%
60-70	2,032.6	12.1%	150-160	14.2	0.1%
70-80	1,331.0	7.9%	160-170	8.6	0.1%
80-90	466.0	2.8%	170-180	2.9	0%



Certificate#4810.01

Report No.: BLC2010026E-E

Photometric Data



Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609	5609
1	5608	5610	5608	5608	5609	5608	5607	5609	5607	5609	5608	5608	5608	5606	5608	5608	5608
2	5607	5606	5608	5606	5605	5603	5604	5609	5602	5605	5605	5602	5603	5608	5606	5608	5607
3	5601	5604	5606	5604	5601	5600	5602	5604	5599	5601	5605	5602	5602	5602	5605	5602	5601
4	5598	5597	5599	5596	5597	5595	5594	5599	5595	5596	5597	5599	5593	5598	5601	5600	5598
5	5591	5593	5593	5594	5588	5589	5590	5591	5587	5589	5588	5591	5592	5591	5595	5594	5591
6	5581	5585	5584	5584	5580	5583	5581	5582	5577	5577	5581	5583	5584	5584	5587	5586	5581
7	5571	5574	5576	5574	5576	5574	5569	5572	5568	5569	5569	5576	5578	5578	5575	5576	5571
8	5559	5560	5566	5564	5566	5563	5554	5562	5552	5561	5559	5573	5569	5573	5567	5566	5559
9	5545	5551	5554	5556	5558	5557	5542	5547	5537	5551	5548	5563	5567	5567	5555	5550	5545
10	5529	5536	5540	5547	5554	5547	5531	5531	5522	5536	5537	5558	5563	5560	5547	5544	5529
11	5516	5520	5526	5539	5548	5545	5517	5513	5500	5514	5523	5556	5569	5557	5530	5535	5516
12	5496	5499	5510	5529	5550	5535	5505	5491	5484	5494	5511	5555	5569	5559	5519	5509	5496
13	5476	5477	5499	5520	5540	5530	5491	5468	5459	5472	5502	5548	5560	5554	5507	5486	5476
14	5451	5457	5485	5515	5532	5520	5475	5449	5434	5449	5493	5530	5542	5541	5495	5466	5451
15	5427	5432	5471	5504	5518	5508	5463	5425	5410	5429	5483	5509	5525	5520	5490	5444	5427
16	5399	5410	5455	5488	5497	5491	5446	5400	5382	5405	5466	5488	5506	5502	5477	5423	5399
17	5369	5379	5440	5466	5459	5467	5430	5368	5354	5379	5445	5468	5494	5482	5457	5399	5369
18	5341	5351	5416	5434	5423	5426	5407	5342	5324	5356	5417	5447	5465	5463	5431	5374	5341
19	5311	5322	5396	5389	5377	5378	5380	5318	5290	5325	5387	5412	5425	5431	5402	5346	5311
20	5279	5297	5367	5342	5319	5331	5352	5288	5255	5295	5360	5367	5383	5396	5375	5315	5279
21	5241	5266	5340	5286	5274	5279	5316	5257	5216	5266	5332	5324	5330	5355	5348	5285	5241
22	5205	5236	5307	5235	5230	5226	5273	5228	5176	5235	5302	5268	5278	5295	5318	5255	5205
23	5169	5206	5258	5180	5183	5174	5219	5193	5140	5198	5263	5217	5229	5246	5279	5223	5169
24	5129	5172	5203	5136	5132	5127	5163	5159	5098	5161	5214	5161	5174	5190	5239	5187	5129
25	5088	5136	5149	5085	5070	5069	5104	5118	5057	5116	5164	5108	5115	5132	5188	5149	5088
26	5041	5097	5092	5026	5009	5012	5051	5072	5005	5075	5111	5046	5047	5073	5134	5106	5041
27	4991	5054	5034	4967	4948	4952	4993	5029	4960	5031	5051	4981	4981	5007	5073	5061	4991
28	4945	5007	4982	4907	4884	4889	4939	4982	4908	4985	4991	4915	4914	4937	5015	5019	4945
29	4896	4961	4923	4835	4816	4827	4876	4935	4859	4938	4930	4844	4846	4874	4953	4969	4896

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

30	4846	4913	4859	4776	4747	4754	4813	4884	4807	4884	4868	4773	4771	4802	4889	4928	4846
31	4784	4859	4804	4702	4677	4684	4751	4825	4748	4836	4802	4699	4685	4725	4823	4875	4784
32	4728	4801	4738	4637	4601	4612	4685	4755	4690	4782	4736	4616	4611	4647	4753	4820	4728
33	4668	4730	4667	4557	4531	4537	4618	4684	4628	4718	4658	4538	4538	4566	4680	4759	4668
34	4608	4658	4603	4487	4456	4466	4544	4610	4568	4656	4582	4464	4468	4497	4611	4697	4608
35	4545	4582	4532	4406	4384	4391	4464	4533	4504	4576	4508	4384	4402	4411	4539	4627	4545
36	4479	4512	4447	4331	4311	4308	4388	4459	4434	4504	4427	4311	4324	4333	4455	4555	4479
37	4406	4426	4372	4259	4229	4236	4311	4374	4358	4425	4348	4226	4259	4263	4370	4469	4406
38	4331	4346	4293	4181	4155	4159	4228	4296	4286	4346	4258	4150	4181	4176	4290	4382	4331
39	4250	4265	4210	4102	4076	4084	4136	4214	4207	4263	4171	4073	4104	4101	4195	4305	4250
40	4169	4185	4118	4024	4002	4006	4052	4134	4127	4169	4085	3994	4026	4019	4109	4223	4169
41	4095	4102	4037	3941	3929	3922	3967	4050	4042	4082	3995	3915	3963	3946	4023	4134	4095
42	4011	4014	3943	3858	3835	3844	3878	3963	3950	3994	3908	3839	3900	3867	3938	4044	4011
43	3927	3926	3858	3784	3757	3769	3791	3870	3868	3908	3811	3760	3830	3791	3837	3963	3927
44	3843	3840	3762	3707	3687	3686	3691	3781	3783	3810	3723	3699	3754	3727	3751	3872	3843
45	3753	3762	3667	3617	3627	3594	3606	3692	3689	3720	3632	3634	3683	3667	3662	3780	3753
46	3674	3665	3582	3533	3546	3519	3517	3600	3604	3628	3541	3551	3631	3589	3569	3684	3674
47	3591	3575	3492	3468	3478	3456	3426	3503	3514	3536	3452	3486	3578	3518	3480	3595	3591
48	3501	3482	3399	3400	3415	3384	3341	3410	3427	3445	3357	3425	3503	3464	3398	3503	3501
49	3414	3395	3314	3324	3375	3311	3246	3317	3334	3345	3268	3371	3437	3407	3306	3403	3414
50	3328	3305	3218	3257	3328	3250	3164	3223	3237	3249	3193	3300	3381	3339	3224	3312	3328
51	3235	3198	3135	3194	3268	3205	3078	3126	3145	3150	3117	3237	3332	3270	3147	3217	3235
52	3136	3100	3054	3144	3195	3152	2989	3018	3055	3050	3048	3190	3286	3219	3070	3118	3136
53	3051	3013	2969	3094	3135	3091	2910	2919	2959	2953	2964	3143	3237	3169	2996	3015	3051
54	2950	2910	2881	3029	3081	3029	2833	2817	2864	2841	2896	3099	3191	3123	2926	2912	2950
55	2855	2800	2809	2952	3016	2952	2756	2719	2757	2741	2833	3058	3129	3075	2854	2815	2855
56	2747	2697	2737	2877	2933	2892	2675	2604	2656	2636	2768	3009	3062	3028	2793	2715	2747
57	2646	2597	2655	2820	2868	2830	2599	2505	2554	2533	2685	2931	2989	2959	2719	2602	2646
58	2539	2495	2578	2751	2808	2747	2532	2401	2447	2425	2608	2851	2925	2893	2641	2495	2539
59	2436	2380	2499	2667	2759	2675	2466	2300	2339	2309	2539	2777	2858	2812	2568	2391	2436
60	2333	2281	2444	2609	2707	2619	2389	2195	2218	2203	2475	2702	2786	2734	2501	2289	2333
61	2209	2176	2370	2556	2651	2561	2315	2083	2110	2101	2410	2632	2712	2665	2437	2186	2209

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

62	2108	2073	2292	2500	2588	2504	2246	1986	2003	2001	2341	2552	2642	2592	2374	2079	2108
63	1992	1974	2222	2440	2519	2435	2180	1885	1880	1893	2265	2481	2573	2522	2299	1980	1992
64	1876	1865	2155	2371	2448	2361	2093	1789	1767	1799	2178	2411	2513	2445	2216	1886	1876
65	1760	1769	2075	2299	2373	2289	2015	1693	1661	1708	2102	2328	2447	2368	2132	1798	1760
66	1642	1669	1993	2233	2304	2218	1934	1599	1551	1617	2018	2253	2375	2300	2056	1704	1642
67	1540	1577	1916	2171	2234	2148	1852	1514	1446	1535	1927	2182	2310	2225	1966	1622	1540
68	1431	1486	1836	2098	2172	2073	1783	1436	1330	1444	1841	2112	2222	2156	1879	1529	1431
69	1314	1404	1768	2031	2100	2004	1714	1352	1228	1365	1766	2036	2160	2075	1799	1452	1314
70	1214	1319	1698	1969	2048	1939	1647	1270	1126	1288	1692	1965	2085	2003	1721	1368	1214
71	1114	1241	1626	1908	1991	1884	1571	1198	1027	1206	1612	1893	2014	1932	1657	1285	1114
72	1017	1168	1565	1849	1925	1817	1507	1119	916	1129	1536	1824	1948	1859	1581	1210	1017
73	914	1096	1487	1791	1852	1756	1439	1044	822	1052	1468	1740	1869	1789	1506	1132	914
74	822	1014	1419	1716	1785	1683	1366	965	730	977	1386	1671	1792	1702	1436	1058	822
75	728	942	1350	1642	1702	1607	1295	894	653	899	1319	1595	1709	1625	1366	977	728
76	640	875	1278	1562	1626	1508	1226	826	569	827	1240	1506	1625	1549	1297	904	640
77	566	809	1212	1487	1524	1422	1161	765	491	765	1171	1422	1532	1454	1221	833	566
78	483	748	1150	1395	1339	1310	1099	697	416	699	1095	1290	1413	1367	1142	769	483
79	415	678	1072	1255	1205	1149	1011	635	356	631	1006	1159	1267	1253	1069	705	415
80	341	618	1001	1096	1134	1034	913	573	295	563	918	1035	1144	1103	980	635	341
81	283	559	901	1011	1055	953	793	515	241	505	805	968	1092	1004	881	571	283
82	233	495	769	925	912	863	669	445	188	441	689	894	1016	940	784	508	233
83	189	434	657	812	726	693	595	391	160	384	618	761	852	864	664	450	189
84	150	383	586	647	642	566	495	324	125	323	526	600	672	685	591	389	150
85	123	325	481	563	557	480	370	246	103	253	405	523	604	569	516	330	123
86	95	249	372	472	396	369	295	198	71	203	327	432	532	507	384	255	95
87	72	194	298	309	295	262	210	142	71	149	241	296	373	384	313	201	72
88	68	142	189	250	264	231	148	93	52	105	172	253	290	273	237	147	68
89	51	99	156	223	243	211	132	79	33	82	155	238	270	243	169	110	51
90	35	76	134	209	224	191	122	57	26	70	139	220	256	226	151	85	35
91	21	63	123	189	207	176	112	53	10	57	130	209	242	211	137	69	21
92	25	52	114	177	189	164	109	46	24	42	123	190	224	196	127	59	25
93	24	46	101	161	175	155	94	44	25	44	112	181	214	186	119	44	24

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

94	25	31	92	154	173	150	83	38	25	38	101	175	205	177	109	47	25
95	19	42	84	146	167	132	78	36	18	41	91	164	192	170	101	44	19
96	23	35	74	131	152	112	68	33	21	30	86	145	185	156	88	39	23
97	18	37	66	111	130	102	67	31	23	37	74	127	169	137	79	35	18
98	21	29	64	100	115	95	56	27	25	34	73	114	146	122	74	34	21
99	22	27	60	92	105	86	55	30	25	30	68	104	131	109	61	35	22
100	24	33	59	82	104	77	51	28	25	32	63	97	115	99	60	30	24
101	22	30	56	83	99	79	32	28	24	23	58	89	111	89	49	33	22
102	24	30	52	81	90	73	39	28	22	28	57	87	104	85	44	31	24
103	22	31	47	71	85	60	40	33	22	25	49	73	99	80	51	33	22
104	23	36	37	68	89	61	39	31	25	33	45	71	97	66	48	29	23
105	23	29	31	67	98	58	39	33	22	32	45	62	97	70	44	31	23
106	23	36	33	56	92	50	31	34	14	34	42	66	97	62	39	35	23
107	25	31	28	56	72	50	36	33	20	33	28	58	98	60	41	33	25
108	23	33	41	52	74	41	36	33	20	32	36	60	81	45	25	34	23
109	27	30	42	39	66	35	39	23	21	30	39	51	80	49	39	35	27
110	21	33	41	46	60	35	42	33	26	28	33	34	74	47	38	32	21
111	25	33	45	46	52	40	48	28	26	29	40	39	69	28	30	30	25
112	26	30	45	47	56	42	45	26	25	23	40	46	57	34	35	33	26
113	20	32	41	47	54	41	42	26	24	28	44	42	56	41	46	28	20
114	23	23	46	46	57	42	41	29	22	22	48	37	48	39	45	26	23
115	22	25	46	47	51	47	48	25	21	27	45	45	54	41	26	28	22
116	26	29	49	54	56	43	42	28	27	29	43	43	53	37	44	31	26
117	26	29	45	55	67	50	50	24	20	27	49	47	51	46	45	26	26
118	22	31	50	60	70	55	35	30	21	24	49	48	57	46	46	25	22
119	27	27	47	55	72	47	43	27	24	26	42	38	62	49	48	22	27
120	25	32	41	53	79	54	40	25	22	30	47	54	63	47	44	27	25
121	20	28	42	58	78	46	42	27	27	26	45	54	70	48	43	26	20
122	27	26	38	55	77	55	40	29	27	26	37	51	77	39	41	26	27
123	25	31	39	63	80	59	39	23	29	28	33	57	79	53	37	26	25
124	28	27	41	56	68	57	37	23	27	30	31	55	76	45	33	24	28
125	20	33	44	42	70	42	38	27	23	25	36	58	72	55	35	31	20

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Certificate#4810.01

126	27	21	39	52	64	43	19	29	26	25	38	49	70	51	32	29	27
127	31	27	31	47	58	45	27	26	27	20	33	44	60	49	29	24	31
128	29	28	38	44	48	43	44	24	26	29	40	46	49	47	31	28	29
129	29	29	37	47	46	46	36	27	26	26	33	40	52	39	38	29	29
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131	29	24	40	44	40	49	37	17	26	28	42	45	37	33	35	19	29
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133	24	20	37	50	39	43	41	29	28	31	25	43	37	46	35	33	24
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157	27	33	22	33	26	27	31	30	29	32	35	33	30	23	30	31	27

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

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Report Format Number BL-FM-SA-012



Report No.: BLC2010026E-E

Certificate#4810.01

158	35	32	31	34	27	29	27	25	23	33	30	31	30	31	32	31	35
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180	32	29	32	30	24	24	26	35	31	32	29	32	24	26	35	31	32

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Report No.: BLC2010026E-E

3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2021/2/26
AC Power Source	CHP-500C	N/A	2021/3/29
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2021/3/1
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Integral Sphere (2M)	2M	DYJCE120067	2021/2/26
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2021/2/26
Expand Uncertainty: Photometric Measurement (Sphere): 2.08%, k=2 Chromaticity Measurement(Sphere):25.6K, k=2 Photometric Measurement(Goniophotometer):2.645%, k=2			

******* END OF REPORT *******