

Integrating Sphere Test Results:

Test Condition:

Test Ambient (°C)	Test Humidity (%)	Orientation	Stabilization Time (minute)	Test Time (minute)
25.5	38.4	Face Down	90	10

Electrical Data:

Rated CCT	Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor
3000K	120.0	60	1.252	150.0	0.9983
5700K	120.0	60	1.265	151.5	0.9984

Output Data:

Rated CCT	Luminous (lm)	Luminous Efficacy (lm/W)
3000K	22701.4	151.34
5700K	22952.1	151.50

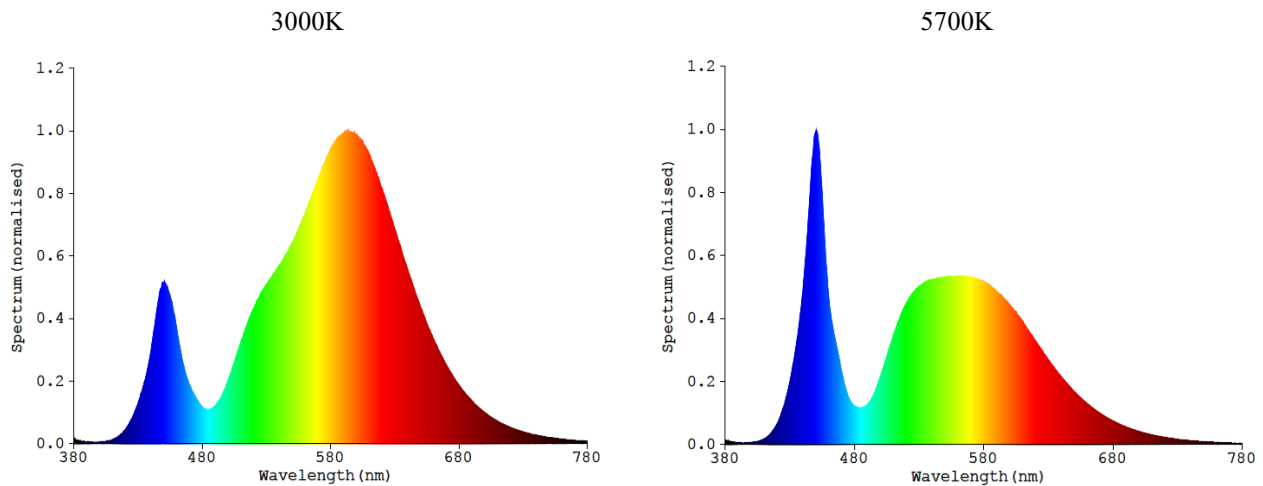
Color Data:

Rated CCT	Test CCT (K)	R _a	R ₉	R _f	R _g	R _{cs, h1}	Chromaticity		
							(x, y)	(u', v')	Duv
3000K	3105	72	-35	76	94	-17%	(0.4317, 0.4060)	(0.2464, 0.5214)	0.0015
5700K	5690	72	-36	74	93	-18%	(0.3280, 0.3503)	(0.2004, 0.4815)	0.0066

Specify Color Rendering:

Rated CCK	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
3000K	68	82	94	69	68	75	78	44	-35	58	64	49	71	96	60
5700K	69	76	82	73	70	68	82	57	-36	44	70	42	70	90	63

Spectrum Diagram:

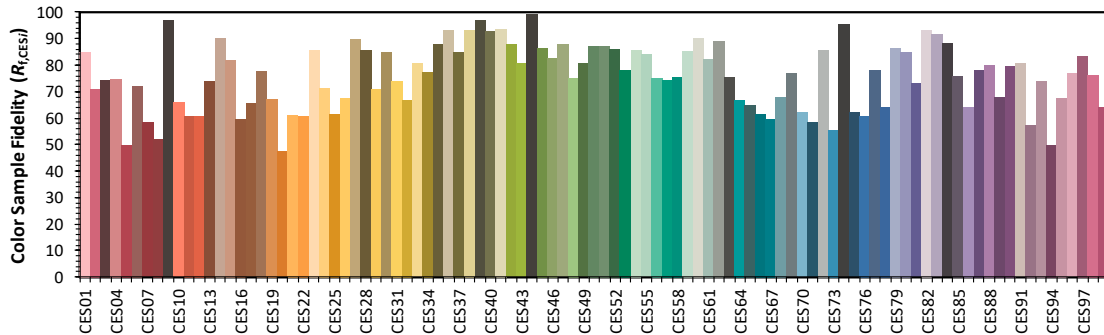
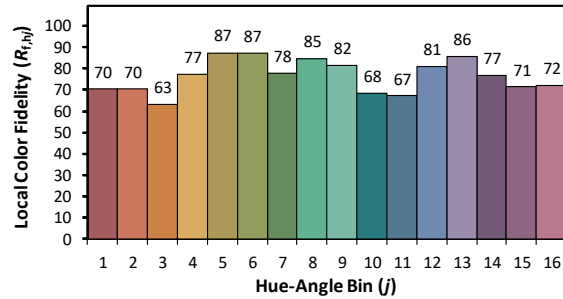
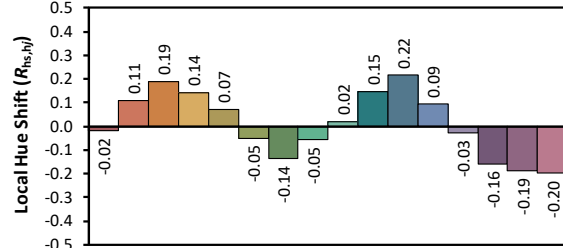
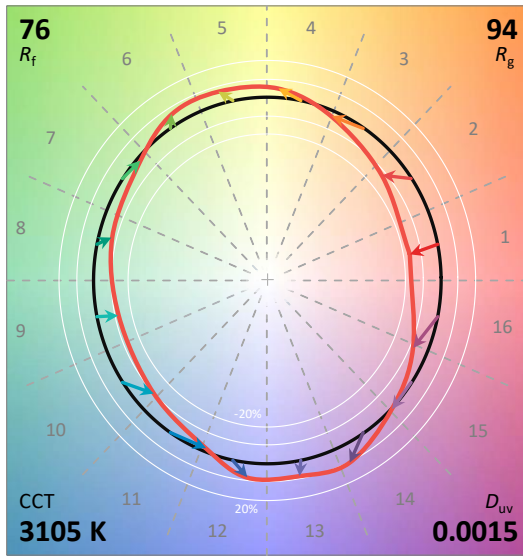
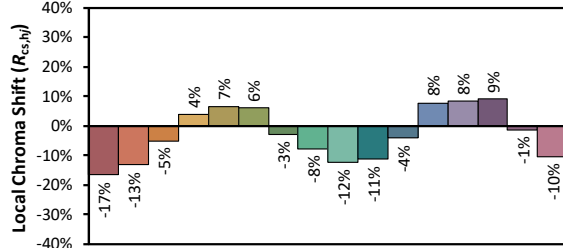
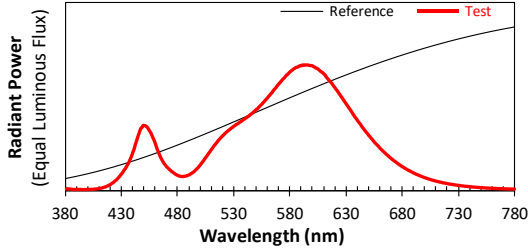


IES TM-30-18 Color Rendition Result (3000K):

ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1
Date: 2020/10/21

Manufacturer: DONGGUAN THAILIGHT SEMICONI
Model: TLCLD1503CLWH-TD



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

x 0.4317
 y 0.4060
 u' 0.2464
 v' 0.5214

CIE 13.3-1995 (CRI)	
R _a	72
R _g	-35

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

Spectrum Data (3000K):

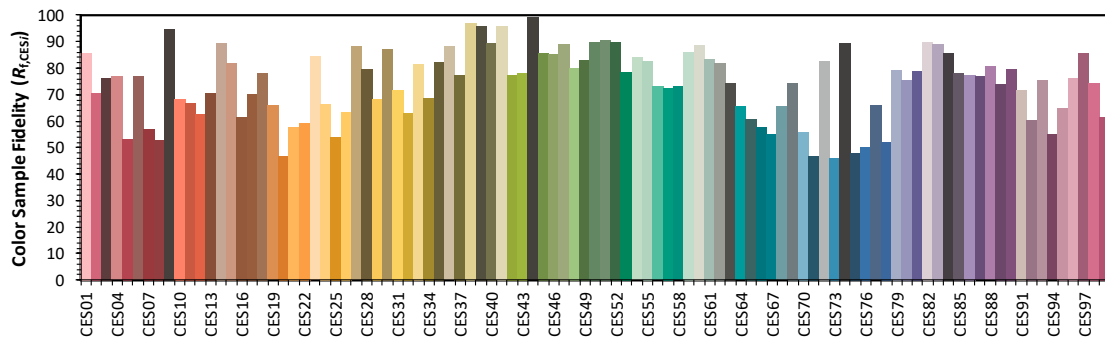
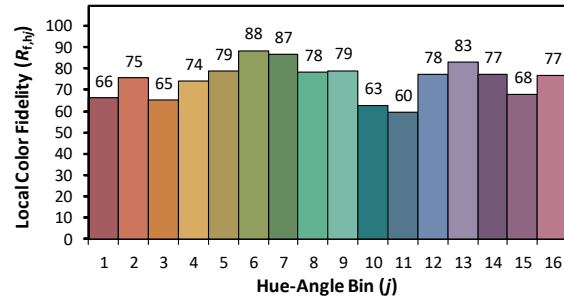
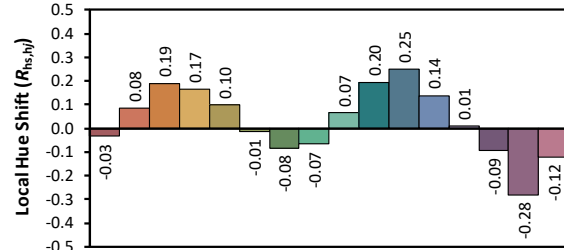
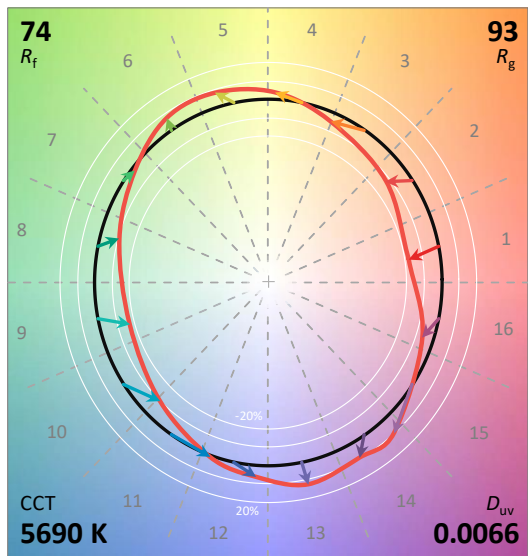
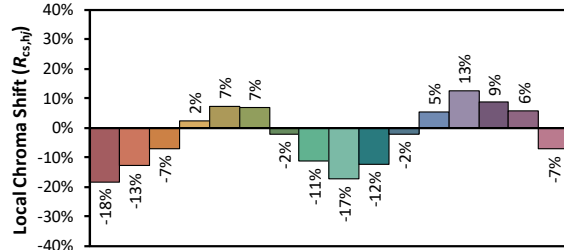
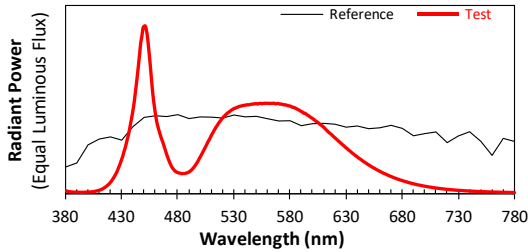
nm	mW	nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.0083	447	0.4909	514	0.3712	581	0.9480	648	0.4592	715	0.0615
381	0.0111	448	0.4969	515	0.3816	582	0.9544	649	0.4495	716	0.0589
382	0.0103	449	0.5145	516	0.3937	583	0.9619	650	0.4364	717	0.0574
383	0.0088	450	0.5129	517	0.4042	584	0.9675	651	0.4271	718	0.0561
384	0.0091	451	0.5123	518	0.4139	585	0.9738	652	0.4153	719	0.0538
385	0.0079	452	0.5056	519	0.4236	586	0.9770	653	0.4056	720	0.0524
386	0.0062	453	0.4977	520	0.4317	587	0.9796	654	0.3940	721	0.0502
387	0.0054	454	0.4833	521	0.4407	588	0.9853	655	0.3834	722	0.0487
388	0.0058	455	0.4681	522	0.4503	589	0.9898	656	0.3733	723	0.0471
389	0.0055	456	0.4544	523	0.4587	590	0.9885	657	0.3642	724	0.0459
390	0.0046	457	0.4336	524	0.4661	591	0.9954	658	0.3552	725	0.0446
391	0.0059	458	0.4132	525	0.4739	592	0.9909	659	0.3462	726	0.0430
392	0.0047	459	0.3931	526	0.4801	593	0.9955	660	0.3340	727	0.0417
393	0.0054	460	0.3697	527	0.4883	594	0.9948	661	0.3261	728	0.0403
394	0.0050	461	0.3419	528	0.4945	595	0.9951	662	0.3166	729	0.0392
395	0.0041	462	0.3177	529	0.5019	596	0.9948	663	0.3093	730	0.0379
396	0.0047	463	0.2975	530	0.5090	597	0.9919	664	0.3004	731	0.0366
397	0.0046	464	0.2744	531	0.5140	598	0.9907	665	0.2919	732	0.0354
398	0.0046	465	0.2544	532	0.5221	599	0.9901	666	0.2832	733	0.0343
399	0.0051	466	0.2389	533	0.5258	600	0.9879	667	0.2766	734	0.0334
400	0.0053	467	0.2226	534	0.5325	601	0.9813	668	0.2681	735	0.0321
401	0.0059	468	0.2090	535	0.5392	602	0.9784	669	0.2594	736	0.0310
402	0.0066	469	0.1982	536	0.5445	603	0.9706	670	0.2528	737	0.0300
403	0.0056	470	0.1862	537	0.5495	604	0.9683	671	0.2448	738	0.0294
404	0.0066	471	0.1784	538	0.5569	605	0.9623	672	0.2378	739	0.0282
405	0.0074	472	0.1688	539	0.5632	606	0.9540	673	0.2315	740	0.0277
406	0.0086	473	0.1610	540	0.5698	607	0.9460	674	0.2251	741	0.0266
407	0.0092	474	0.1521	541	0.5744	608	0.9396	675	0.2180	742	0.0258
408	0.0102	475	0.1458	542	0.5820	609	0.9345	676	0.2111	743	0.0246
409	0.0115	476	0.1386	543	0.5877	610	0.9242	677	0.2049	744	0.0242
410	0.0133	477	0.1326	544	0.5952	611	0.9178	678	0.1985	745	0.0235
411	0.0149	478	0.1264	545	0.6034	612	0.9038	679	0.1929	746	0.0227
412	0.0165	479	0.1213	546	0.6083	613	0.8920	680	0.1875	747	0.0216
413	0.0188	480	0.1168	547	0.6166	614	0.8817	681	0.1814	748	0.0211
414	0.0218	481	0.1128	548	0.6260	615	0.8713	682	0.1755	749	0.0204
415	0.0245	482	0.1112	549	0.6328	616	0.8612	683	0.1702	750	0.0202
416	0.0278	483	0.1083	550	0.6425	617	0.8511	684	0.1657	751	0.0196
417	0.0315	484	0.1085	551	0.6468	618	0.8389	685	0.1601	752	0.0189
418	0.0360	485	0.1084	552	0.6582	619	0.8256	686	0.1554	753	0.0184
419	0.0403	486	0.1106	553	0.6667	620	0.8148	687	0.1511	754	0.0173
420	0.0449	487	0.1114	554	0.6757	621	0.8010	688	0.1461	755	0.0169
421	0.0522	488	0.1146	555	0.6838	622	0.7914	689	0.1419	756	0.0165
422	0.0577	489	0.1175	556	0.6954	623	0.7773	690	0.1370	757	0.0162
423	0.0645	490	0.1212	557	0.7040	624	0.7650	691	0.1328	758	0.0155
424	0.0723	491	0.1265	558	0.7154	625	0.7509	692	0.1284	759	0.0154
425	0.0792	492	0.1321	559	0.7242	626	0.7389	693	0.1241	760	0.0148
426	0.0882	493	0.1380	560	0.7349	627	0.7254	694	0.1213	761	0.0142
427	0.0986	494	0.1445	561	0.7468	628	0.7119	695	0.1166	762	0.0138
428	0.1082	495	0.1518	562	0.7559	629	0.6990	696	0.1133	763	0.0137
429	0.1200	496	0.1611	563	0.7676	630	0.6862	697	0.1099	764	0.0129
430	0.1310	497	0.1700	564	0.7761	631	0.6736	698	0.1058	765	0.0125
431	0.1419	498	0.1784	565	0.7900	632	0.6596	699	0.1028	766	0.0121
432	0.1576	499	0.1901	566	0.8014	633	0.6470	700	0.0991	767	0.0119
433	0.1683	500	0.2008	567	0.8101	634	0.6344	701	0.0967	768	0.0117
434	0.1836	501	0.2125	568	0.8218	635	0.6205	702	0.0932	769	0.0112
435	0.1996	502	0.2238	569	0.8344	636	0.6068	703	0.0900	770	0.0108
436	0.2142	503	0.2359	570	0.8444	637	0.5926	704	0.0875	771	0.0104
437	0.2337	504	0.2494	571	0.8548	638	0.5791	705	0.0847	772	0.0103
438	0.2548	505	0.2610	572	0.8649	639	0.5688	706	0.0817	773	0.0098
439	0.2758	506	0.2727	573	0.8762	640	0.5554	707	0.0792	774	0.0097
440	0.3016	507	0.2871	574	0.8854	641	0.5424	708	0.0768	775	0.0093
441	0.3252	508	0.2979	575	0.8938	642	0.5313	709	0.0745	776	0.0092
442	0.3570	509	0.3115	576	0.9050	643	0.5199	710	0.0719	777	0.0089
443	0.3857	510	0.3239	577	0.9150	644	0.5055	711	0.0695	778	0.0086
444	0.4136	511	0.3359	578	0.9212	645	0.4942	712	0.0676	779	0.0083
445	0.4408	512	0.3494	579	0.9316	646	0.4817	713	0.0650	780	0.0081
446	0.4656	513	0.3597	580	0.9403	647	0.4707	714	0.0636	N/A	N/A

IES TM-30-18 Color Rendition Result (5700K):

ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1
Date: 2020/10/21

Manufacturer: DONGGUAN THAILIGHT SEMICONI
Model: TLCLD1506CLWH-TD



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

x 0.3280
 y 0.3503
 u' 0.2004
 v' 0.4815

CIE 13.3-1995
(CRI)
 R_a 72
 R_g -36

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

Spectrum Data (5700K):

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.0141	447	0.8942	514	0.3921	581	0.5144	648	0.1773	715	0.0264
381	0.0130	448	0.9322	515	0.4003	582	0.5102	649	0.1724	716	0.0260
382	0.0108	449	0.9807	516	0.4119	583	0.5098	650	0.1681	717	0.0250
383	0.0094	450	0.9905	517	0.4214	584	0.5070	651	0.1642	718	0.0243
384	0.0092	451	0.9920	518	0.4302	585	0.5035	652	0.1597	719	0.0234
385	0.0073	452	0.9672	519	0.4391	586	0.5006	653	0.1557	720	0.0231
386	0.0075	453	0.9243	520	0.4468	587	0.4963	654	0.1515	721	0.0224
387	0.0065	454	0.8604	521	0.4544	588	0.4936	655	0.1486	722	0.0217
388	0.0065	455	0.7925	522	0.4606	589	0.4886	656	0.1444	723	0.0210
389	0.0055	456	0.7171	523	0.4682	590	0.4853	657	0.1406	724	0.0204
390	0.0062	457	0.6400	524	0.4735	591	0.4818	658	0.1369	725	0.0199
391	0.0057	458	0.5735	525	0.4791	592	0.4747	659	0.1335	726	0.0192
392	0.0057	459	0.5195	526	0.4838	593	0.4750	660	0.1297	727	0.0186
393	0.0057	460	0.4728	527	0.4889	594	0.4713	661	0.1264	728	0.0181
394	0.0050	461	0.4315	528	0.4944	595	0.4657	662	0.1228	729	0.0175
395	0.0055	462	0.4014	529	0.4974	596	0.4618	663	0.1196	730	0.0173
396	0.0055	463	0.3774	530	0.5025	597	0.4572	664	0.1165	731	0.0166
397	0.0059	464	0.3544	531	0.5038	598	0.4518	665	0.1141	732	0.0161
398	0.0064	465	0.3329	532	0.5072	599	0.4476	666	0.1106	733	0.0158
399	0.0066	466	0.3138	533	0.5098	600	0.4437	667	0.1077	734	0.0153
400	0.0067	467	0.2951	534	0.5123	601	0.4381	668	0.1045	735	0.0147
401	0.0069	468	0.2734	535	0.5154	602	0.4337	669	0.1017	736	0.0143
402	0.0076	469	0.2537	536	0.5166	603	0.4272	670	0.0991	737	0.0138
403	0.0081	470	0.2315	537	0.5183	604	0.4234	671	0.0963	738	0.0135
404	0.0087	471	0.2130	538	0.5199	605	0.4195	672	0.0934	739	0.0131
405	0.0100	472	0.1946	539	0.5209	606	0.4122	673	0.0910	740	0.0127
406	0.0109	473	0.1788	540	0.5226	607	0.4075	674	0.0884	741	0.0125
407	0.0122	474	0.1647	541	0.5233	608	0.4021	675	0.0859	742	0.0120
408	0.0141	475	0.1523	542	0.5251	609	0.3978	676	0.0835	743	0.0116
409	0.0157	476	0.1431	543	0.5244	610	0.3912	677	0.0817	744	0.0114
410	0.0176	477	0.1352	544	0.5253	611	0.3844	678	0.0787	745	0.0110
411	0.0201	478	0.1293	545	0.5276	612	0.3772	679	0.0770	746	0.0107
412	0.0222	479	0.1249	546	0.5282	613	0.3706	680	0.0748	747	0.0104
413	0.0259	480	0.1221	547	0.5289	614	0.3642	681	0.0727	748	0.0102
414	0.0300	481	0.1197	548	0.5303	615	0.3580	682	0.0707	749	0.0098
415	0.0342	482	0.1189	549	0.5307	616	0.3533	683	0.0686	750	0.0095
416	0.0391	483	0.1167	550	0.5313	617	0.3472	684	0.0669	751	0.0093
417	0.0450	484	0.1159	551	0.5290	618	0.3408	685	0.0645	752	0.0092
418	0.0505	485	0.1169	552	0.5314	619	0.3344	686	0.0627	753	0.0088
419	0.0570	486	0.1170	553	0.5325	620	0.3288	687	0.0610	754	0.0086
420	0.0647	487	0.1181	554	0.5327	621	0.3223	688	0.0589	755	0.0082
421	0.0733	488	0.1209	555	0.5313	622	0.3168	689	0.0576	756	0.0081
422	0.0834	489	0.1230	556	0.5327	623	0.3100	690	0.0560	757	0.0078
423	0.0934	490	0.1259	557	0.5325	624	0.3049	691	0.0543	758	0.0076
424	0.1050	491	0.1314	558	0.5342	625	0.2983	692	0.0526	759	0.0074
425	0.1175	492	0.1366	559	0.5331	626	0.2927	693	0.0510	760	0.0072
426	0.1308	493	0.1436	560	0.5334	627	0.2863	694	0.0494	761	0.0070
427	0.1478	494	0.1513	561	0.5334	628	0.2812	695	0.0483	762	0.0068
428	0.1644	495	0.1599	562	0.5325	629	0.2748	696	0.0470	763	0.0066
429	0.1820	496	0.1699	563	0.5332	630	0.2686	697	0.0455	764	0.0064
430	0.2019	497	0.1796	564	0.5330	631	0.2637	698	0.0442	765	0.0062
431	0.2205	498	0.1905	565	0.5335	632	0.2569	699	0.0428	766	0.0061
432	0.2456	499	0.2038	566	0.5335	633	0.2520	700	0.0415	767	0.0059
433	0.2671	500	0.2154	567	0.5304	634	0.2470	701	0.0404	768	0.0057
434	0.2930	501	0.2279	568	0.5310	635	0.2407	702	0.0393	769	0.0056
435	0.3209	502	0.2401	569	0.5323	636	0.2352	703	0.0380	770	0.0053
436	0.3465	503	0.2535	570	0.5309	637	0.2302	704	0.0368	771	0.0053
437	0.3800	504	0.2662	571	0.5287	638	0.2243	705	0.0360	772	0.0052
438	0.4165	505	0.2791	572	0.5291	639	0.2204	706	0.0348	773	0.0049
439	0.4515	506	0.2921	573	0.5271	640	0.2145	707	0.0337	774	0.0048
440	0.4904	507	0.3066	574	0.5256	641	0.2095	708	0.0325	775	0.0047
441	0.5343	508	0.3176	575	0.5242	642	0.2049	709	0.0318	776	0.0047
442	0.5873	509	0.3308	576	0.5244	643	0.2002	710	0.0309	777	0.0044
443	0.6439	510	0.3447	577	0.5219	644	0.1957	711	0.0300	778	0.0045
444	0.7014	511	0.3555	578	0.5199	645	0.1902	712	0.0291	779	0.0039
445	0.7647	512	0.3686	579	0.5183	646	0.1856	713	0.0284	780	0.0034
446	0.8282	513	0.3799	580	0.5170	647	0.1809	714	0.0273	N/A	N/A

Goniophotometer Test Results (3000K):

Test Condition:

Test Ambient (°C)	Test Humidity (%)	Orientation	Stabilization Time (minute)	Test Time (minute)
25.5	38.4	Face Down	90	25

Electrical Data:

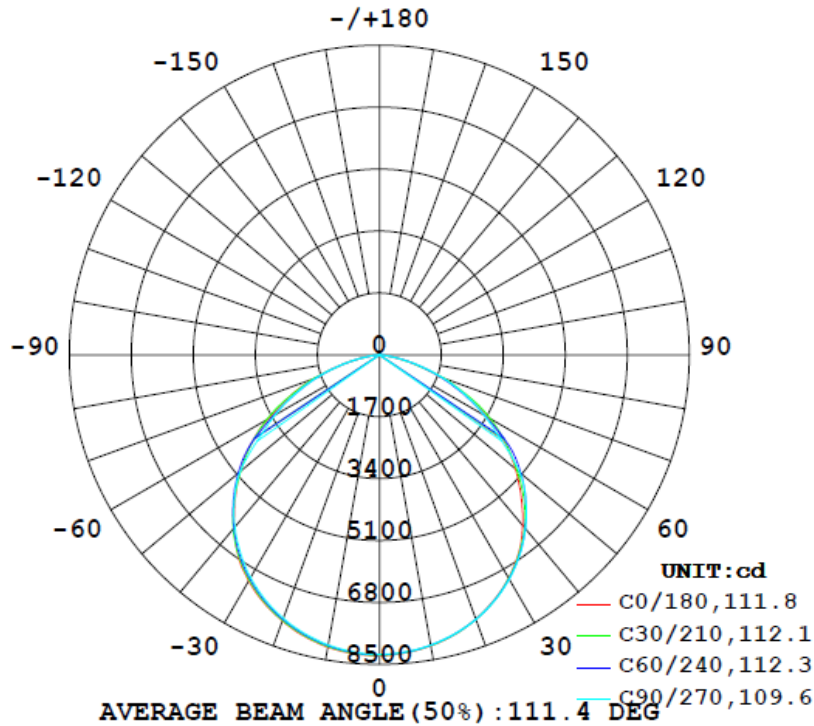
Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor
120.0	60	1.252	150.0	0.9983
277.0	60	0.5428	145.2	0.9655

Goniophotometer Data:

Parameter	Results			
	120V		277V	
Total Luminous (lm)	22701.4		22276.3	
Luminous Efficacy (lm/w)	151.34		153.42	
Zonal Lumens Distribution (0-40°)	46.8%		46.7%	
Zonal Lumens Distribution (40-70°)	47.2%		47.1%	
Beam Angle, 50% (°)	Horizontal	Vertical	Horizontal	Vertical
	109.4	111.7	110.4	111.7
Field Angle, 10% (°)	Horizontal	Vertical	Horizontal	Vertical
	155.7	155.1	154.7	155.2
BUG	B4-U2-G2		B4-U2-G2	

Luminous Intensity Distribution Diagram (120V):

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



BUG Rating (120V):

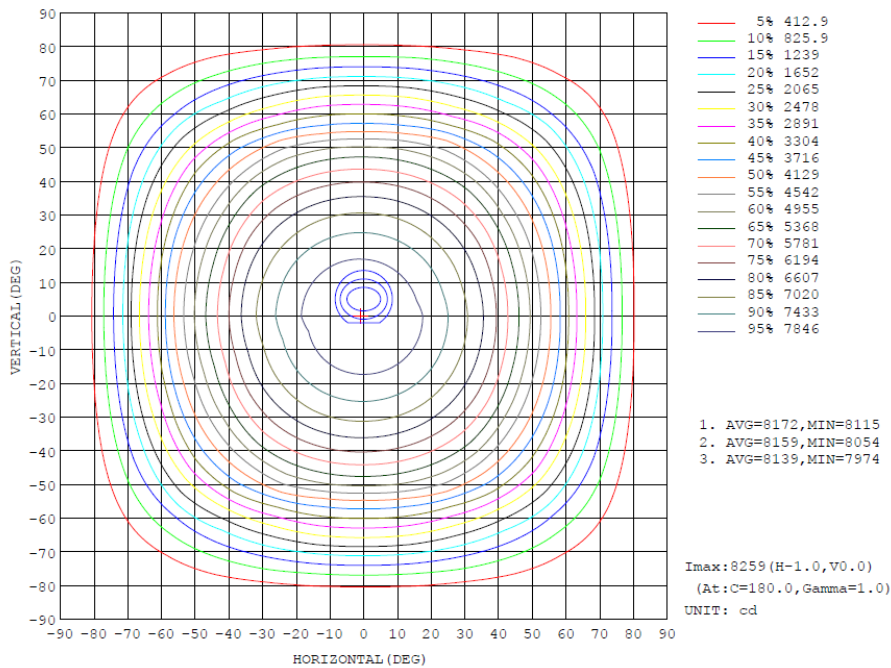
LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	3218.8	N.A.	14.2
FM (30-60)	6122.1	N.A.	27.0
FH (60-80)	1868.2	N.A.	8.2
FVH (80-90)	86.6	N.A.	0.4
BL (0-30)	3231.5	N.A.	14.2
BM (30-60)	6172.4	N.A.	27.2
BH (60-80)	1895.0	N.A.	8.3
BVH (80-90)	86.0	N.A.	0.4
UL (90-100)	1.4	N.A.	0.0
UH (100-180)	19.4	N.A.	0.1
Total	22701.4	N.A.	100.0
BUG Rating	B4-U2-G2		

Zonal Flux Diagram (120V):

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	φ zone	φ total	lum, lamp
10	8110	8098	8091	8085	8148	8118	8086	8063	0- 10	778.7	778.7	3.43,3.43
20	7723	7729	7728	7730	7776	7744	7697	7675	10- 20	2241	3020	13.3,13.3
30	7083	7099	7119	7124	7169	7124	7063	7043	20- 30	3430	6450	28.4,28.4
40	6116	6216	6231	6248	6194	6235	6164	6156	30- 40	4180	10630	46.8,46.8
50	4876	5039	5027	5037	4993	5034	4984	4970	40- 50	4333	14963	65.9,65.9
60	3436	3512	3324	3554	3518	3545	3303	3486	50- 60	3782	18745	82.6,82.6
70	1807	1760	1831	1761	1899	1789	1817	1759	60- 70	2602	21346	94,94
80	432.7	464.7	454.3	467.1	477.4	482.6	454.8	470.6	70- 80	1162	22508	99.1,99.1
90	12.12	3.410	0.4178	9.451	1.128	1.354	1.203	1.193	80- 90	172.6	22681	99.9,99.9
100	0.9078	0.9218	0.9281	0.9190	2.035	2.052	2.070	2.079	90-100	1.403	22682	99.9,99.9
110	1.408	1.352	1.406	1.440	2.512	2.622	2.654	2.667	100-110	1.866	22684	99.9,99.9
120	2.292	2.071	2.144	2.189	3.223	3.209	3.230	3.147	110-120	2.280	22686	99.9,99.9
130	3.360	2.982	3.097	3.106	4.533	4.635	4.679	4.385	120-130	2.881	22689	99.9,99.9
140	4.136	3.990	4.087	3.997	5.735	6.164	5.978	5.841	130-140	3.430	22692	100,100
150	4.584	4.547	4.477	4.595	6.929	7.354	7.254	7.145	140-150	3.393	22696	100,100
160	5.383	5.258	4.849	5.446	8.168	8.401	7.966	7.905	150-160	2.902	22699	100,100
170	6.109	6.250	5.805	5.991	8.035	8.309	7.819	7.548	160-170	1.949	22701	100,100
180	7.407	7.583	7.159	7.084	7.436	7.570	7.171	7.007	170-180	0.6817	22701	100,100
DEG	LUMINOUS INTENSITY:cd Less than 35% Percent = 11.3 %									UNIT:lm		

Isocandela Diagram (120V):



Luminous Distribution Intensity Data (120V):

Table--1 UNIT: cd

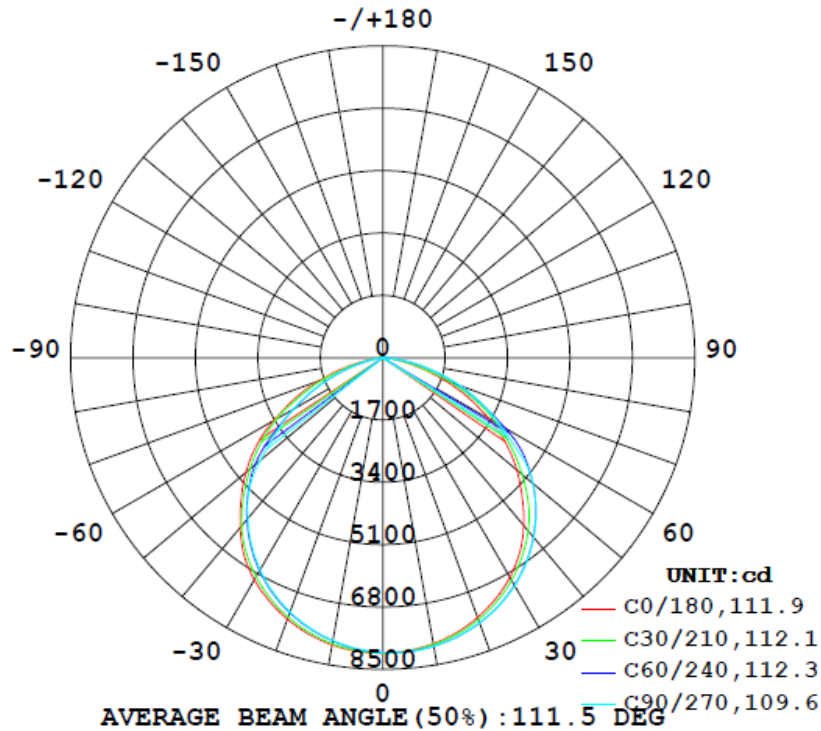
C (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	8258	8252	8244	8237	8232	8227	8221	8215	8209	8205	8200	8195	8258	8252	8244	8237	8232	8227	8221
5	8211	8206	8201	8197	8192	8191	8186	8184	8179	8175	8169	8165	8232	8223	8215	8207	8200	8192	8184
10	8110	8106	8103	8098	8095	8093	8091	8089	8088	8085	8081	8075	8148	8139	8129	8118	8106	8095	8086
15	7951	7949	7947	7945	7940	7938	7937	7937	7937	7938	7931	7922	7994	7981	7972	7959	7946	7932	7919
20	7723	7726	7730	7729	7728	7725	7728	7729	7732	7730	7722	7707	7776	7767	7758	7744	7729	7711	7697
25	7435	7438	7445	7443	7452	7453	7457	7461	7464	7461	7448	7432	7503	7488	7481	7465	7448	7430	7415
30	7083	7084	7091	7099	7108	7115	7119	7129	7133	7124	7110	7095	7169	7150	7140	7124	7103	7082	7063
35	6655	6662	6677	6688	6698	6705	6707	6724	6728	6719	6706	6682	6748	6739	6731	6712	6689	6664	6644
40	6116	6144	6199	6216	6224	6230	6231	6248	6259	6248	6214	6142	6194	6193	6238	6235	6210	6188	6164
45	5502	5522	5604	5675	5681	5689	5690	5705	5709	5702	5601	5529	5592	5580	5634	5692	5667	5648	5627
50	4876	4876	4926	5039	5067	5065	5027	5065	5092	5037	4942	4909	4993	4969	4966	5034	5056	5028	4984
55	4199	4216	4239	4291	4332	4145	4079	4141	4363	4301	4280	4256	4325	4315	4296	4298	4334	4141	4066
60	3436	3496	3518	3512	3349	3342	3324	3343	3373	3554	3564	3509	3518	3568	3573	3545	3374	3334	3303
65	2616	2631	2698	2575	2544	2595	2597	2605	2556	2607	2707	2672	2718	2718	2722	2611	2555	2586	2563
70	1807	1867	1873	1760	1797	1838	1831	1843	1817	1761	1915	1872	1899	1942	1936	1789	1822	1840	1817
75	1041	1089	1021	1042	1079	1110	1117	1110	1086	1054	1047	1095	1111	1149	1080	1070	1096	1113	1104
80	433	465	431	465	449	462	454	459	453	467	433	456	477	500	457	483	459	464	455
85	103	107	112	113	116	113	111	112	112	108	105	98.2	110	111	116	115	120	118	116
90	12.1	13.5	1.41	3.41	3.71	1.54	0.42	0.40	13.0	9.45	6.99	5.34	1.13	1.18	1.19	1.35	1.24	1.26	1.20
95	0.69	0.68	0.69	0.70	0.69	0.68	0.68	0.68	0.69	0.69	0.69	0.68	1.58	1.58	1.59	1.59	1.58	1.58	1.60
100	0.91	0.90	0.90	0.92	0.92	0.93	0.93	0.93	0.93	0.92	0.91	0.89	2.03	2.03	2.04	2.05	2.06	2.06	2.07
105	1.13	1.12	1.11	1.12	1.14	1.14	1.12	1.14	1.15	1.16	1.13	1.13	2.37	2.38	2.40	2.45	2.45	2.44	2.45
110	1.41	1.36	1.36	1.35	1.39	1.39	1.41	1.42	1.44	1.44	1.41	1.40	2.51	2.53	2.57	2.62	2.65	2.65	2.65
115	1.83	1.67	1.69	1.67	1.70	1.75	1.77	1.79	1.80	1.78	1.75	1.76	2.75	2.75	2.75	2.81	2.85	2.87	2.88
120	2.29	2.14	2.13	2.07	2.14	2.11	2.14	2.18	2.19	2.19	2.19	2.18	3.22	3.22	3.18	3.21	3.21	3.21	3.23
125	2.83	2.70	2.60	2.57	2.61	2.52	2.58	2.60	2.62	2.68	2.68	2.70	3.79	3.83	3.75	3.83	3.82	3.83	3.84
130	3.36	3.25	3.21	2.98	3.16	3.14	3.10	3.12	3.16	3.11	3.21	3.23	4.53	4.62	4.62	4.63	4.69	4.63	4.68
135	3.85	3.77	3.64	3.47	3.53	3.67	3.62	3.62	3.58	3.58	3.62	3.69	5.14	5.32	5.37	5.45	5.44	5.38	5.37
140	4.14	4.17	4.02	3.98	4.03	4.13	4.09	4.01	4.01	4.00	3.96	4.03	5.74	5.92	5.98	6.16	6.11	5.99	5.98
145	4.33	4.44	4.36	4.23	4.32	4.38	4.40	4.41	4.37	4.26	4.21	4.22	6.33	6.51	6.56	6.72	6.76	6.65	6.67
150	4.58	4.69	4.68	4.55	4.37	4.59	4.48	4.55	4.58	4.59	4.50	4.46	6.93	7.03	7.10	7.35	7.31	7.23	7.25
155	4.95	5.14	5.19	4.86	4.79	4.92	4.66	4.91	4.98	4.98	5.10	4.85	7.48	7.50	7.84	7.89	7.85	7.78	7.61
160	5.38	5.51	5.42	5.26	5.02	5.02	4.85	5.23	5.32	5.45	5.38	5.34	8.17	8.13	8.20	8.40	8.34	8.14	7.97
165	5.70	5.90	5.86	5.81	5.51	5.50	5.36	5.62	5.82	5.80	5.68	5.69	8.07	8.09	8.23	8.40	8.54	8.35	8.00
170	6.11	6.27	6.28	6.25	5.79	5.88	5.81	5.79	6.00	5.99	6.01	6.06	8.03	8.06	8.21	8.31	8.35	8.24	7.82
175	6.96	7.08	7.06	7.04	6.69	6.55	6.33	6.38	6.66	6.67	6.77	6.86	8.01	8.00	8.10	8.09	8.05	8.00	7.62
180	7.41	7.53	7.58	7.58	7.34	7.21	7.16	6.90	6.93	7.08	7.03	7.18	7.44	7.43	7.56	7.57	7.56	7.35	7.17

Table--2 UNIT: cd

C (DEG)	285	300	315	330	345														
0	8215	8209	8205	8200	8195														
5	8177	8169	8161	8157	8152														
10	8076	8071	8063	8061	8058														
15	7910	7901	7897	7896	7897														
20	7689	7678	7675	7674	7675														
25	7404	7395	7390	7392	7395														
30	7059	7050	7043	7045	7045														
35	6643	6638	6633	6635	6628														
40	6164	6158	6156	6156	6117														
45	5620	5615	5612	5554	5502														
50	5009	5001	4970	4878	4862														
55	4139	4302	4230	4205	4211														
60	3313	3348	3486	3497	3492														
65	2571	2525	2594	2674	2638														
70	1823	1790	1759	1897	1893														
75	1105	1074	1041	1047	1120														
80	461	455	471	447	491														
85	119	123	121	119	117														
90	1.45	1.38	1.19	1.14	1.66														
95	1.59	1.59	1.60	1.60	1.59														
100	2.07	2.07	2.08	2.09	2.05														
105	2.45	2.47	2.48	2.44	2.41														
110	2.65	2.66	2.67	2.58	2.53														
115	2.88	2.86	2.84	2.75	2.75														
120	3.21	3.16	3.15	3.13	3.18														
125	3.76	3.63	3.66	3.61	3.74														
130	4.57	4.49	4.39	4.41	4.50														
135	5.24	5.12	5.05	5.12	5.16														
140	5.80	5.78	5.84	5.79	5.84														
145	6.42	6.52	6.43	6.36	6.44														
150	7.20	6.99	7.14	7.03	6.99														
155	7.67	7.67	7.63	7.76	7.56														
160	8.00	8.03	7.91	8.13	8.04														
165	7.94	8.01	7.92	8.10	8.05														
170	7.88	7.82	7.55	7.83	7.95														
175	7.48	7.66	7.42	7.76	7.77														
180	7.19	6.93	7.01	7.10	7.09														

Luminous Intensity Distribution Diagram (277V):

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



BUG Rating (277V):

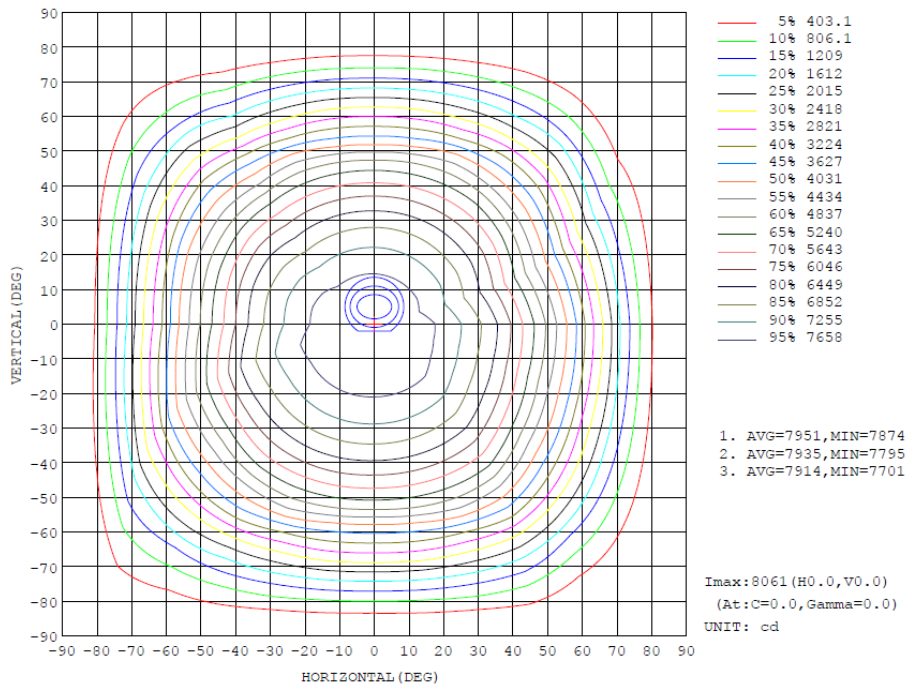
LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	3137.7	N.A.	14.1
FM (30-60)	5919.3	N.A.	26.6
FH (60-80)	1770.9	N.A.	7.9
FVH (80-90)	89.3	N.A.	0.4
BL (0-30)	3170.1	N.A.	14.2
BM (30-60)	6104.1	N.A.	27.4
BH (60-80)	1946.4	N.A.	8.7
BVH (80-90)	114.5	N.A.	0.5
UL (90-100)	4.9	N.A.	0.0
UH (100-180)	19.1	N.A.	0.1
Total	22276.3	N.A.	100.0
BUG Rating	B4-U2-G2		

Zonal Flux Diagram (277V):

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	∫ zone	∫ total	∫lum,lamp
10	7918	7984	7989	7991	7953	7852	7827	7818	0- 10	761.5	761.5	3.42,3.42
20	7541	7696	7703	7718	7591	7417	7381	7370	10- 20	2192	2953	13.3,13.3
30	6918	7160	7183	7199	6998	6731	6685	6674	20- 30	3354	6308	28.3,28.3
40	5972	6367	6395	6420	6043	5786	5723	5729	30- 40	4087	10395	46.7,46.7
50	4764	5325	5344	5352	4869	4494	4358	4441	40- 50	4235	14630	65.7,65.7
60	3358	3902	3682	3939	3429	2922	2808	2922	50- 60	3701	18331	82.3,82.3
70	1768	2202	2254	2229	1852	1325	1353	1299	60- 70	2554	20886	93.8,93.8
80	425.5	766.3	805.1	777.6	461.5	229.0	227.4	229.6	70- 80	1163	22049	99,99
90	12.14	66.06	65.95	53.93	1.092	1.362	1.374	1.375	80- 90	203.8	22252	99.9,99.9
100	0.8780	0.7751	0.7491	0.7651	1.982	2.252	2.247	2.290	90-100	4.918	22257	99.9,99.9
110	1.367	1.182	1.199	1.220	2.449	2.658	2.718	2.704	100-110	1.826	22259	99.9,99.9
120	2.231	1.778	1.871	1.895	3.144	3.462	3.463	3.326	110-120	2.220	22261	99.9,99.9
130	3.273	2.680	2.714	2.789	4.426	5.033	5.036	4.710	120-130	2.873	22264	99.9,99.9
140	4.031	3.648	3.720	3.697	5.597	6.335	6.245	6.048	130-140	3.391	22268	100,100
150	4.467	4.259	4.349	4.286	6.760	7.492	7.255	7.279	140-150	3.370	22271	100,100
160	5.247	4.876	4.616	5.056	7.962	8.220	7.797	7.823	150-160	2.849	22274	100,100
170	5.959	5.955	5.493	5.854	7.834	8.018	7.562	7.320	160-170	1.873	22276	100,100
180	7.228	7.199	6.643	6.746	7.250	7.177	6.796	6.783	170-180	0.6481	22276	100,100
DEG	LUMINOUS INTENSITY:cd Less than 35% Percent = 11.4 *									UNIT:lm		

Isocandela Diagram (277V):



Luminous Distribution Intensity Data (277V):

Table--1 UNIT: cd

C (DEG) y (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	8061	8060	8058	8047	8044	8042	8038	8037	8032	8031	8032	8019	8061	8060	8058	8047	8044	8042	8038
5	8016	8015	8027	8047	8049	8049	8049	8048	8046	8047	8046	8047	8035	8032	8015	7980	7978	7973	7966
10	7918	7919	7943	7984	7986	7988	7989	7991	7991	7991	7992	8006	7953	7949	7919	7852	7842	7835	7827
15	7763	7768	7805	7869	7872	7873	7875	7878	7880	7882	7882	7906	7802	7798	7754	7663	7651	7641	7635
20	7541	7550	7604	7696	7699	7701	7703	7709	7715	7718	7715	7745	7591	7584	7530	7417	7403	7389	7381
25	7261	7266	7341	7461	7465	7468	7472	7484	7487	7490	7482	7522	7322	7315	7247	7107	7089	7073	7065
30	6918	6922	7011	7160	7169	7177	7183	7195	7201	7199	7187	7239	6998	6986	6901	6731	6711	6692	6685
35	6498	6506	6616	6796	6810	6820	6823	6841	6847	6841	6831	6898	6586	6582	6488	6293	6267	6247	6234
40	5972	6004	6164	6367	6385	6394	6395	6419	6426	6420	6410	6472	6043	6051	5981	5786	5762	5744	5723
45	5374	5396	5610	5881	5895	5902	5902	5926	5932	5931	5872	5922	5454	5453	5370	5191	5189	5176	5162
50	4764	4767	4957	5325	5339	5347	5344	5366	5368	5352	5243	5315	4869	4854	4718	4494	4549	4430	4358
55	4106	4123	4286	4652	4711	4646	4559	4648	4739	4664	4601	4705	4220	4220	4060	3769	3665	3549	3519
60	3358	3416	3591	3902	3865	3720	3682	3723	3895	3939	3932	4054	3429	3488	3340	2922	2808	2828	2808
65	2561	2574	2825	3090	2966	2993	2978	3002	2978	3145	3200	3278	2652	2656	2483	2071	2063	2093	2074
70	1768	1825	1998	2202	2197	2256	2254	2269	2212	2229	2334	2488	1852	1893	1714	1325	1333	1358	1353
75	1020	1065	1124	1428	1478	1510	1509	1517	1488	1455	1500	1663	1083	1120	927	676	694	663	656
80	425	453	523	766	818	812	805	811	823	778	773	949	461	485	362	229	220	226	227
85	101	104	152	269	280	287	286	287	279	272	273	365	106	108	81	41	43	43	43
90	12.1	13.2	2.93	66.1	68.6	67.8	66.0	66.0	61.7	53.9	48.3	71.3	1.09	1.19	1.19	1.36	1.36	1.37	1.37
95	0.66	0.66	0.63	0.55	0.53	0.54	0.54	0.53	0.54	0.54	0.54	0.53	1.54	1.54	1.64	1.83	1.85	1.85	1.85
100	0.88	0.88	0.84	0.78	0.76	0.75	0.75	0.75	0.78	0.77	0.76	0.70	1.98	1.98	2.07	2.25	2.25	2.25	2.25
105	1.10	1.09	1.04	0.97	0.98	0.98	0.98	0.99	0.99	0.99	0.98	0.92	2.31	2.32	2.39	2.50	2.52	2.52	2.53
110	1.37	1.32	1.27	1.18	1.19	1.18	1.20	1.21	1.23	1.22	1.21	1.15	2.45	2.47	2.54	2.66	2.70	2.70	2.72
115	1.78	1.63	1.57	1.42	1.45	1.49	1.51	1.52	1.54	1.53	1.51	1.44	2.69	2.68	2.76	2.96	2.96	2.99	3.01
120	2.23	2.09	1.98	1.78	1.83	1.85	1.87	1.89	1.90	1.89	1.89	1.81	3.14	3.14	3.20	3.46	3.47	3.47	3.46
125	2.76	2.64	2.44	2.20	2.26	2.19	2.26	2.28	2.30	2.32	2.34	2.23	3.70	3.73	3.82	4.19	4.22	4.19	4.26
130	3.27	3.17	3.02	2.68	2.76	2.69	2.71	2.73	2.77	2.79	2.84	2.75	4.43	4.51	4.69	5.03	5.04	5.04	5.04
135	3.75	3.68	3.46	3.08	3.22	3.32	3.26	3.29	3.26	3.21	3.32	3.27	5.02	5.18	5.37	5.77	5.74	5.64	5.54
140	4.03	4.06	3.84	3.65	3.64	3.76	3.72	3.68	3.66	3.70	3.69	3.69	5.60	5.78	5.92	6.34	6.35	6.22	6.25
145	4.22	4.33	4.19	3.95	4.12	4.17	4.14	4.09	4.11	4.02	4.00	4.00	6.18	6.35	6.53	6.96	6.95	6.88	6.94
150	4.47	4.58	4.47	4.26	4.23	4.36	4.35	4.37	4.33	4.29	4.20	4.19	6.76	6.86	7.06	7.49	7.45	7.36	7.26
155	4.82	5.01	4.99	4.59	4.42	4.61	4.49	4.61	4.67	4.68	4.67	4.43	7.30	7.32	7.79	8.05	7.99	7.82	7.64
160	5.25	5.38	5.26	4.88	4.75	4.87	4.62	4.93	5.01	5.06	5.17	4.88	7.96	7.92	7.99	8.22	8.28	8.08	7.80
165	5.56	5.76	5.62	5.31	5.05	5.00	4.84	5.21	5.37	5.46	5.33	5.28	7.87	7.89	8.07	8.15	8.30	8.14	7.80
170	5.96	6.13	6.13	5.95	5.66	5.64	5.49	5.70	5.90	5.85	5.81	5.72	7.83	7.86	7.98	8.02	7.98	7.88	7.56
175	6.78	6.91	6.66	6.24	5.83	5.88	5.74	5.71	5.97	5.94	5.97	5.95	7.80	7.80	7.82	7.59	7.56	7.43	7.18
180	7.23	7.31	7.51	7.20	6.90	6.85	6.64	6.56	6.84	6.75	7.12	6.97	7.25	7.32	7.18	7.17	6.85	6.80	

Table--2 UNIT: cd

C (DEG) y (DEG)	285	300	315	330	345														
0	8037	8032	8031	8032	8019														
5	7963	7959	7957	7957	7937														
10	7823	7820	7818	7821	7791														
15	7629	7625	7624	7628	7586														
20	7374	7369	7370	7373	7318														
25	7060	7055	7053	7058	6992														
30	6679	6677	6674	6679	6597														
35	6236	6235	6233	6239	6118														
40	5728	5723	5729	5703	5532														
45	5159	5155	5141	5054	4895														
50	4432	4517	4441	4392	4262														
55	3537	3666	3709	3717	3578														
60	2811	2784	2922	2976	2743														
65	2077	2041	2047	2144	2006														
70	1346	1316	1299	1321	1247														
75	664	688	655	644	573														
80	225	221	230	227	187														
85	45.6	46.2	45.3	44.5	22.1														
90	1.37	1.36	1.38	1.38	1.47														
95	1.86	1.86	1.86	1.86	1.93														
100	2.25	2.27	2.29	2.29	2.31														
105	2.53	2.54	2.55	2.48	2.46														
110	2.72	2.71	2.70	2.62	2.64														
115	3.00	2.95	2.95	2.91	3.03														
120	3.44	3.33	3.33	3.30	3.54														
125	4.14	4.04	4.01	4.02	4.25														
130	4.92	4.79	4.71	4.78	4.94														
135	5.46	5.42	5.42	5.40	5.62														
140	5.99	6.17	6.05	6.03	6.18														
145	6.85	6.70	6.74	6.60	6.76														
150	7.28	7.19	7.28	7.33	7.30														
155	7.75	7.83	7.66	7.33	7.86														
160	7.75	7.84	7.82	7.97	7.89														
165	7.79	7.75	7.54	7.81	7.80														
170	7.34	7.55	7.32	7.66	7.68														
175	7.17	7.06	7.02	7.23	7.05														
180	6.57	6.53	6.78	6.74	6.77														

THD and PF Measurement Test Results:

Electrical Measurement:

CCT	Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor	iTHD(%)
3000K	277.0	60	0.5428	145.2	0.9655	11.29
5700K	277.0	60	0.5457	146.0	0.9659	11.19

Performance Assessment:

Model Number	CCT	Total Luminous (lm)	Power (W)	Luminous Efficacy (lm/w)
TLCLD1503CLWH-TD	3000K	22701.4	150.02	151.32
TLCLD1504CLWH-TD	4000K	22785.0 ^{#1}	150.51 ^{#3}	151.38
TLCLD1505CLWH-TD	5000K	22868.5 ^{#2}	151.01 ^{#4}	151.44
TLCLD1506CLWH-TD	5700K	22952.1	151.50	151.50

#1: This value is calculated and calculation formula is as below:

$$22785.0 = (22952.1 - 22701.4) / 3 + 22701.4$$

#2: This value is calculated and calculation formula is as below:

$$22868.5 = (22952.1 - 22701.4) / 3 * 2 + 22701.4$$

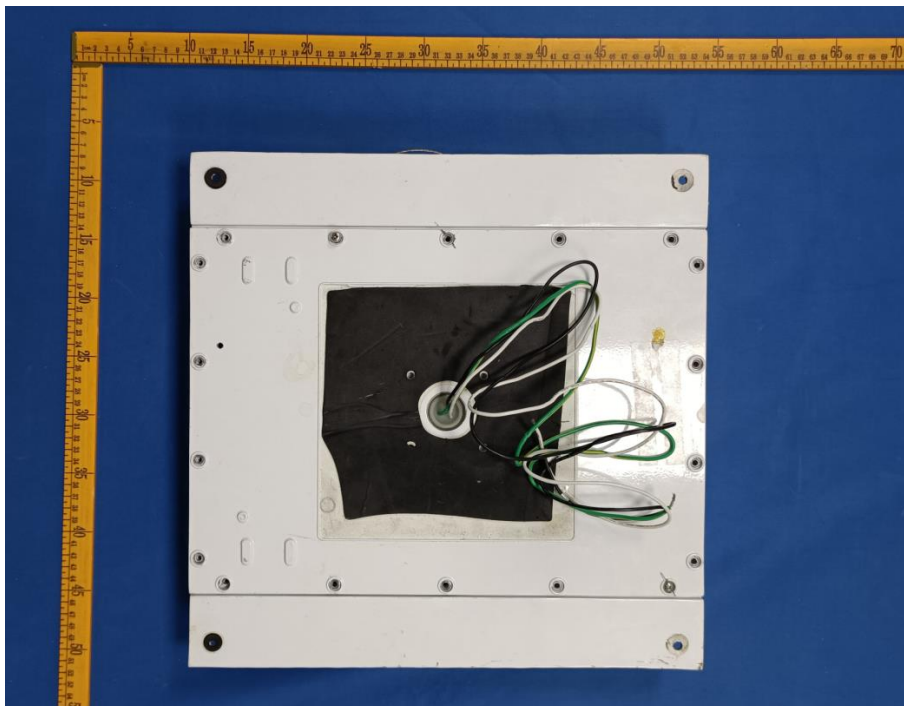
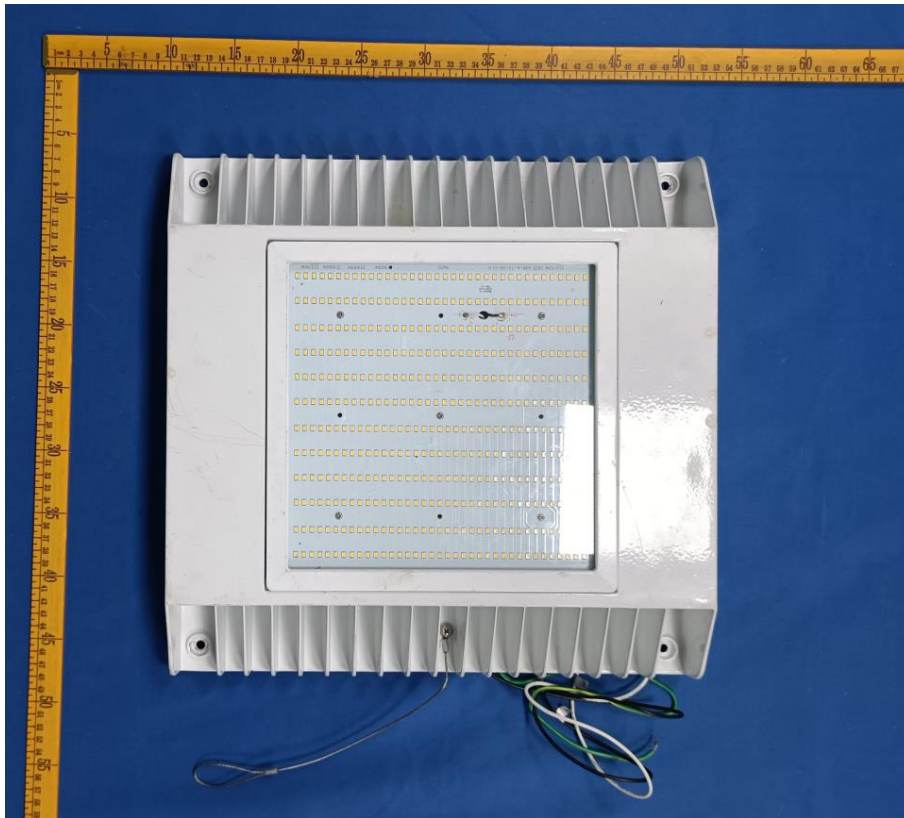
#3: This value is calculated and calculation formula is as below:

$$150.51 = (151.50 - 150.02) / 3 + 150.02$$

#4: This value is calculated and calculation formula is as below:

$$151.01 = (151.50 - 150.02) / 3 * 2 + 150.02$$

Photo of Sample:



Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2019-11-13	2020-11-12
NTC-F01-006	2.0 meter Integrating Sphere	2019-11-13	2020-11-12
NTC-F01-012	Standard Lamp	2019-11-13	2020-11-12
NTC-F01-013	Standard Lamp	2019-11-13	2020-11-12
NTC-F01-031	Digital Power Meter	2020-08-22	2021-08-21
NTC-F01-019	Temperature & Humidity Meter	2019-11-15	2020-11-14

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