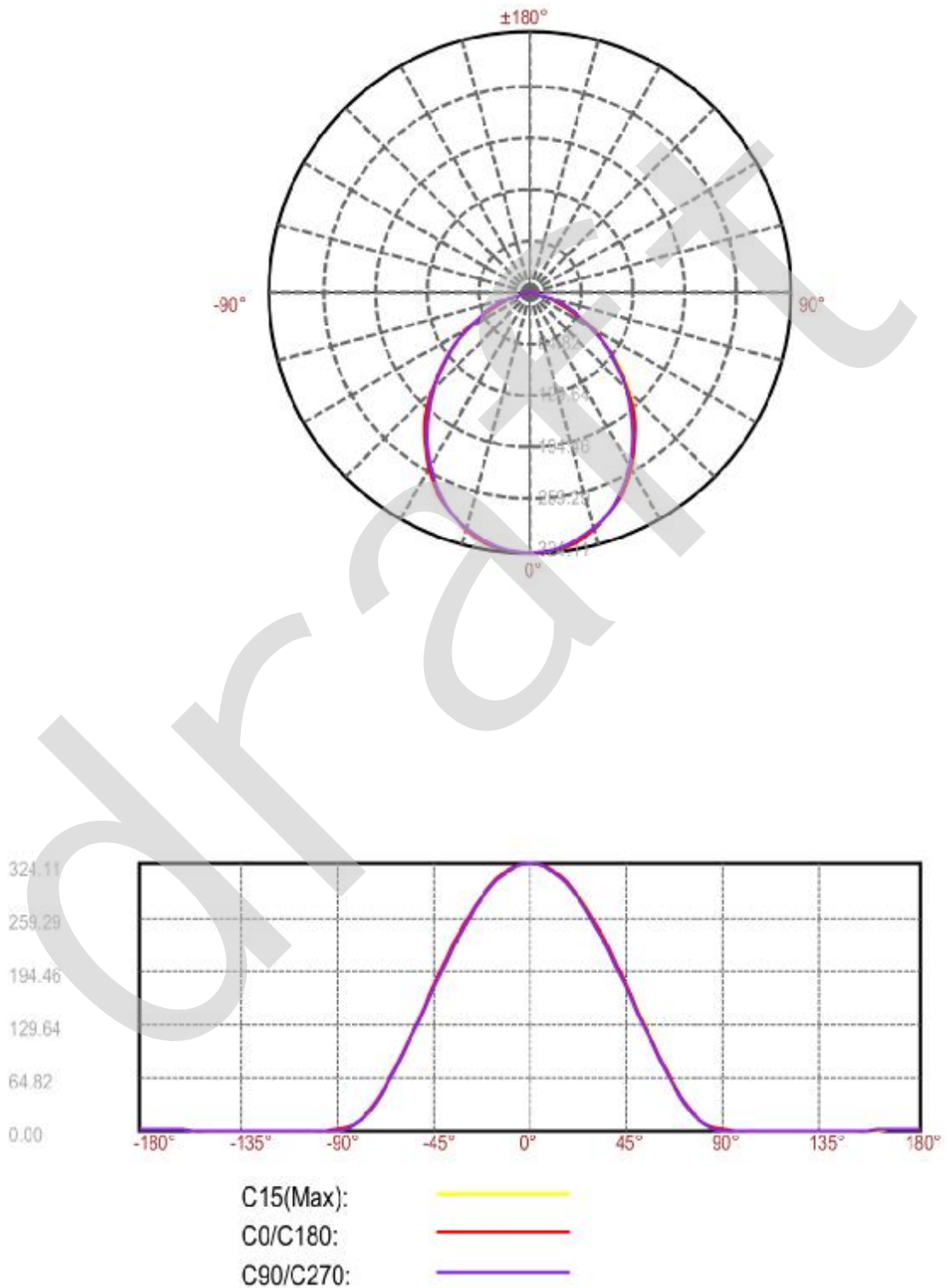


Test Report Number:	LCZP14110320	Total Page(s):	12
Applicant Name:	L-TECH CORPORATION		
Applicant Address:	SHAOGANGTOU DISTRICT, QIAOTOU TOWN, DONGGUAN CITY. GUANGDONG PROVINCE, CHINA		
Test item:	LED Downlight		
Model / Type Reference:	LRTK449-4090		
Date of Issue:	2014-12-01		
Testing Laboratory:	LCTECH (Zhongshan) Testing Service Co., Ltd. 2/F., Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China		
Test Specification:	Photometric test (According to IES LM-79-08)		
Test Result:	See following pages		
Compiled by:	Reviewed by:		
<i>2014-12-01</i>	<i>Fish Tan</i>	<i>2014-12-01</i>	<i>Richard Li</i>
_____	_____	_____	_____
<i>Date</i>	<i>Name</i>	<i>Signature</i>	<i>Date</i>
			<i>Name</i>
			<i>Signature</i>
Remark:	N/A		
<p>The duplication of this report or parts of it and its use for advertising purposes is only allowed with permission of the testing laboratory. This report contains the result of the examination of the product sample submitted by the applicant. A general statement concerning the quality of the products from the series manufacture cannot be derived therefore.</p>			

Sample Description									
Luminaire Type	LED Downlight			Model/Type	LRTK449-4090				
Input Type	<input checked="" type="checkbox"/> AC		<input type="checkbox"/> DC		Rated Voltage	120V 50/60Hz			
Rated Wattage	11 W			Lamp Rated Lumens	Not provided				
Lamp Type	LED			Lamp Model	Not provided				
Power Supply Type	LED Driver			Power Supply Model	Not provided				
Luminous Length	71 mm			Luminous Width	71 mm				
Luminous Diameter	N.A			Luminous Height	0 mm				
Test Condition									
Temperature	25.0°C			Humidity	60%				
Test Equipment	LC-I-902 GMS-2000			Test Mode	C-Gamma				
Test Date	2014-11-28			Test Method	Absolutely photometric				
Azimuth (C)	15			Elevation (Gamma)	5				
Test distance	18.35 m			Uncertainty	Considered				
Characteristics									
Input Voltage	119.95 V			Input Current	0.093 A				
Wattage	11.04 W			Power Factor	0.995				
Total lumens	721.89 lm			Luminous Efficacy	65.39 lm/W				
Central Intensity	324.107 cd			Max intensity	324.107 cd				
Beam Angle(50%Imax)	92.6°			Angle of max intensity	C=15,Gamma=0				
Maximum S/H	C0=1.16,C90=1.16			CIE Type	Direct lighting				
Luminance Data (cd/m²)									
Gamma	45	50	55	60	65	70	75	80	85
C0	48604	44310	39790	34992	29132	22772	16232	10525	7314
C45	49195	45908	42312	37554	32083	25636	17989	10703	7176
C90	47553	43415	38958	34102	28647	22679	15893	10471	6852

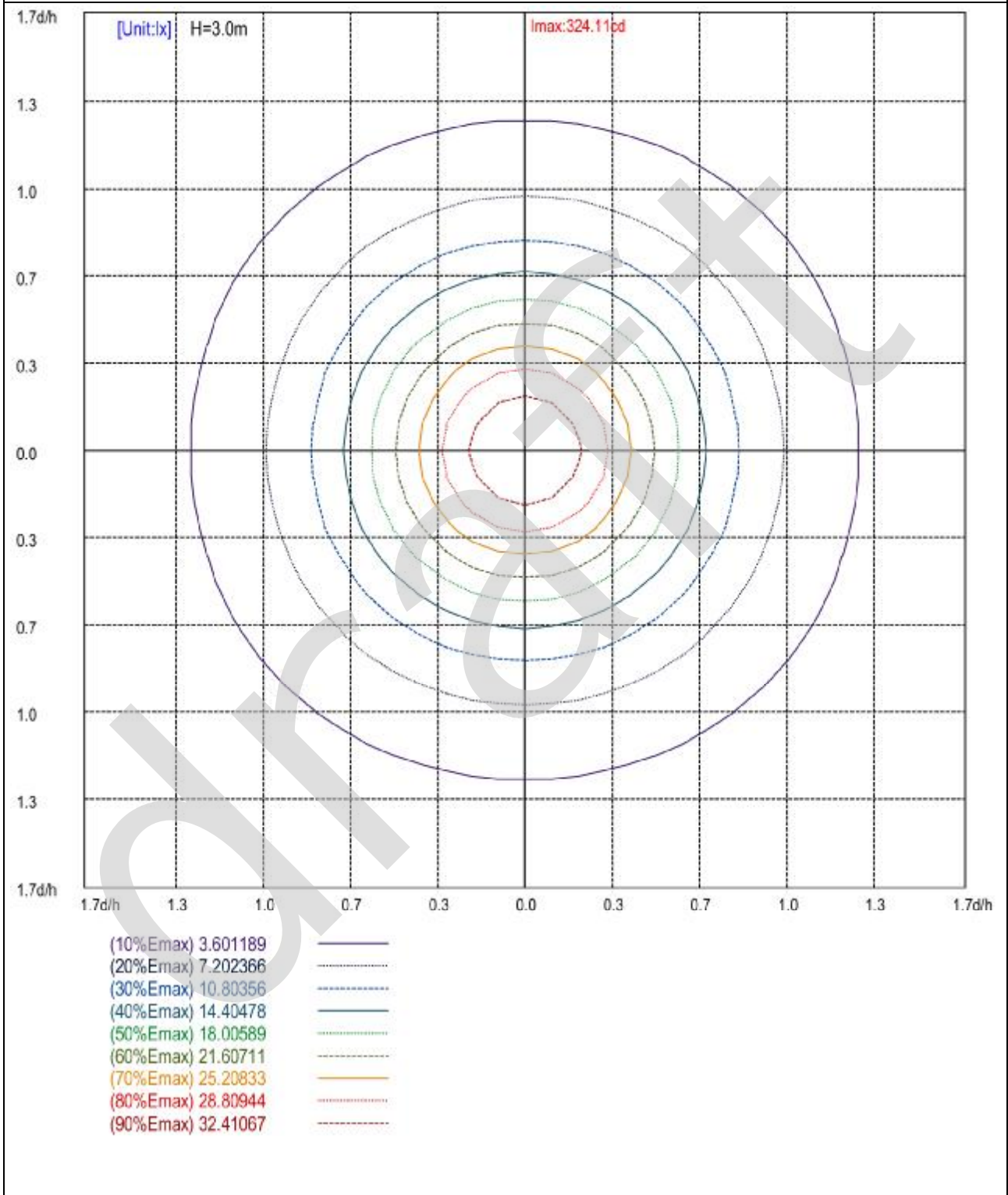
Light Distribution Curve(cd)



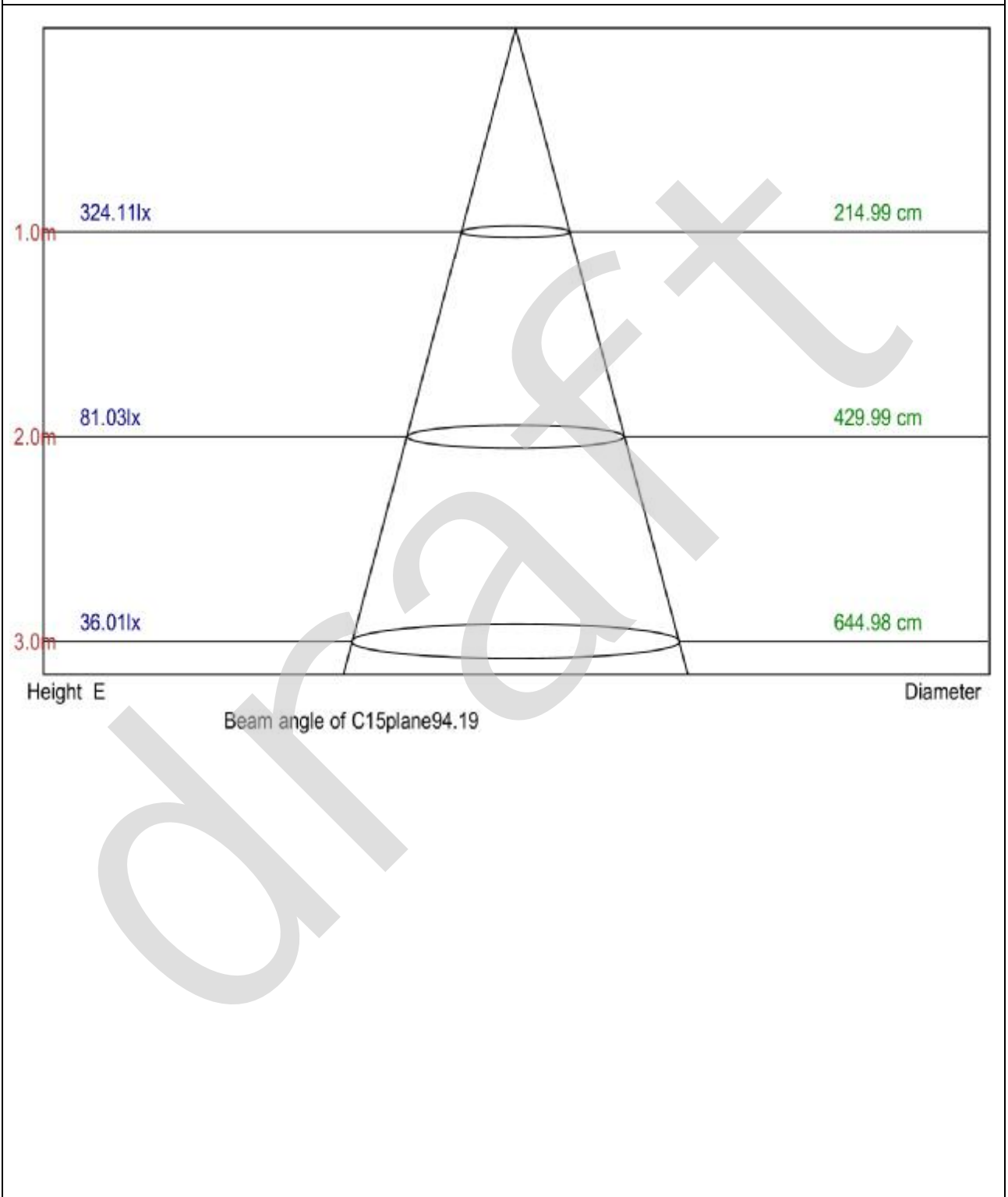
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(lm)	Eff Sum(lm)
0.0	324.107	.000	.000	.000%	.000%
5.0	322.021	7.724	7.724	1.070%	1.070%
10.0	315.527	22.807	30.531	3.159%	4.229%
15.0	304.974	36.808	67.339	5.099%	9.328%
20.0	290.447	49.071	116.410	6.798%	16.126%
25.0	272.044	58.995	175.405	8.172%	24.298%
30.0	250.636	66.146	241.551	9.163%	33.461%
35.0	226.549	70.269	311.820	9.734%	43.195%
40.0	200.582	71.264	383.083	9.872%	53.067%
45.0	173.640	69.290	452.374	9.598%	62.665%
50.0	145.648	64.517	516.890	8.937%	71.602%
55.0	117.893	57.302	574.193	7.938%	79.540%
60.0	90.740	48.225	622.418	6.680%	86.221%
65.0	65.073	37.878	660.296	5.247%	91.468%
70.0	41.725	27.042	687.338	3.746%	95.214%
75.0	22.133	16.691	704.029	2.312%	97.526%
80.0	9.352	8.424	712.454	1.167%	98.693%
85.0	3.182	3.406	715.859	.472%	99.165%
90.0	.862	1.107	716.967	.153%	99.318%
95.0	.696	.427	717.393	.059%	99.377%
100.0	.737	.389	717.783	.054%	99.431%
105.0	.714	.388	718.171	.054%	99.485%
110.0	.733	.378	718.549	.052%	99.537%
115.0	.743	.374	718.923	.052%	99.589%
120.0	.740	.361	719.283	.050%	99.639%
125.0	.757	.346	719.629	.048%	99.687%
130.0	.752	.328	719.957	.045%	99.732%
135.0	.770	.308	720.265	.043%	99.775%
140.0	.726	.277	720.542	.038%	99.813%
145.0	.800	.255	720.797	.035%	99.849%
150.0	.853	.243	721.040	.034%	99.882%
155.0	.904	.222	721.262	.031%	99.913%
160.0	1.035	.203	721.466	.028%	99.941%
165.0	1.118	.177	721.643	.025%	99.966%
170.0	1.145	.134	721.778	.019%	99.984%
175.0	1.146	.082	721.860	.011%	99.996%
180.0	1.154	.027	721.887	.004%	100.000%

ISO illuminance diagram(lux)



Lux distance Curve



Utilization factor table

RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	0.99
1	1.06	1.02	0.99	1.04	1.00	0.97	0.99	0.97	0.94	0.95	0.93	0.91	0.92	0.90	0.88	0.86
2	0.94	0.88	0.83	0.92	0.86	0.82	0.88	0.84	0.80	0.85	0.81	0.78	0.82	0.79	0.76	0.74
3	0.83	0.76	0.70	0.82	0.75	0.70	0.79	0.73	0.68	0.76	0.71	0.67	0.74	0.69	0.66	0.64
4	0.75	0.67	0.60	0.73	0.66	0.60	0.71	0.64	0.59	0.69	0.63	0.58	0.66	0.61	0.57	0.55
5	0.67	0.59	0.53	0.66	0.58	0.52	0.64	0.57	0.52	0.62	0.56	0.51	0.60	0.55	0.51	0.49
6	0.61	0.53	0.47	0.60	0.52	0.46	0.58	0.51	0.46	0.56	0.50	0.45	0.55	0.49	0.45	0.43
7	0.56	0.47	0.41	0.55	0.47	0.41	0.53	0.46	0.41	0.52	0.45	0.41	0.50	0.45	0.40	0.38
8	0.51	0.43	0.37	0.50	0.43	0.37	0.49	0.42	0.37	0.48	0.41	0.37	0.46	0.41	0.36	0.35
9	0.47	0.39	0.34	0.46	0.39	0.34	0.45	0.38	0.33	0.44	0.38	0.33	0.43	0.37	0.33	0.31
10	0.43	0.36	0.31	0.43	0.36	0.31	0.42	0.35	0.31	0.41	0.35	0.30	0.40	0.34	0.30	0.29

Intensity data(cd)								
$\gamma/C(^{\circ})$	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0
0	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066
5	322.1068	322.1997	321.8446	321.9416	322.1385	322.0103	321.8699	322.0103
10	315.8168	315.7995	315.7503	315.5531	315.4844	315.222	314.8906	315.222
15	305.0998	305.6033	305.0883	304.9377	304.824	304.825	304.0266	304.825
20	290.896	291.079	290.9264	290.7191	290.3013	289.58	289.2608	289.58
25	272.7439	272.8908	272.5711	272.3198	271.6999	271.1996	270.4252	271.1996
30	251.3442	251.8143	251.7439	250.8898	249.9839	249.428	248.5625	249.428
35	227.278	227.5287	227.8706	227.1822	226.2751	224.931	223.7399	224.931
40	200.9557	201.3144	201.9616	202.167	200.1292	198.8767	197.1346	198.8767
45	173.2489	174.1218	175.5859	175.356	173.7558	171.6443	169.5034	171.6443
50	143.5764	145.2905	148.0789	148.7548	146.5661	143.0679	140.6783	143.0679
55	115.0491	117.0199	120.4967	122.3422	118.6721	114.9806	112.6435	114.9806
60	88.19693	89.50006	93.30499	94.65453	91.94498	87.96063	85.95418	87.96063
65	62.06261	64.02761	67.10699	68.34992	66.28426	63.12206	61.03067	63.12206
70	39.26131	40.63449	43.26045	44.2001	42.66951	40.40223	39.10066	40.40223
75	21.17752	21.43979	22.4572	23.47079	22.80485	21.66987	20.73596	21.66987
80	9.212818	9.386916	9.326822	9.368796	9.390465	9.447526	9.165531	9.447526
85	3.213376	3.263246	3.262768	3.152944	3.152221	3.146539	3.010331	3.146539
90	1.042638	0.8528253	0.8604732	0.8272139	0.7749979	0.9086734	0.8576919	0.9086734
95	0.6836972	0.7312673	0.6726778	0.715506	0.6886265	0.6644282	0.723152	0.6644282
100	0.7862517	0.7315606	0.7231287	0.7220533	0.7486206	0.7741835	0.655882	0.7741835
105	0.6666046	0.7227103	0.7407882	0.706957	0.7227609	0.7065472	0.7063345	0.7065472
110	0.8204365	0.7067692	0.6972011	0.7311741	0.722761	0.7571347	0.7399694	0.7571347
115	0.7349744	0.7480882	0.7236905	0.7630822	0.7987869	0.7233725	0.6726995	0.7233725
120	0.7349744	0.7575249	0.7234095	0.7146481	0.7566365	0.7238197	0.7904219	0.7238197
125	0.8033442	0.7315606	0.7735795	0.723483	0.7481029	0.7823166	0.7567869	0.7823166
130	0.837529	0.7147397	0.7732986	0.7223393	0.7646526	0.7488897	0.7399694	0.7488897
135	0.7862517	0.756352	0.8154814	0.8155195	0.6974189	0.7573583	0.7736045	0.7573583
140	0.7520669	0.7330267	0.6983246	0.731746	0.6987131	0.7404212	0.7567869	0.7404212
145	0.7691593	0.789114	0.7730178	0.8326173	0.8150777	0.782652	0.8408744	0.782652
150	0.8375289	0.8578636	0.8912982	0.8579782	0.7897357	0.8920718	0.8240569	0.8920718
155	0.9058986	0.925147	0.8992853	0.8819091	0.9252382	0.8998695	0.8745094	0.8998695
160	1.076823	0.9829937	1.008455	1.108441	1.008245	1.043051	1.042684	1.043051
165	1.145193	1.101326	1.143552	1.117847	1.101338	1.144115	1.059502	1.144115
170	1.162285	1.126411	1.143271	1.203051	1.108577	1.152471	1.109954	1.152471
175	1.230655	1.135848	1.134722	1.083938	1.209946	1.12673	1.143589	1.12673
180	1.230655	1.143232	1.11048	1.159734	1.15952	1.161499	1.143589	1.161499

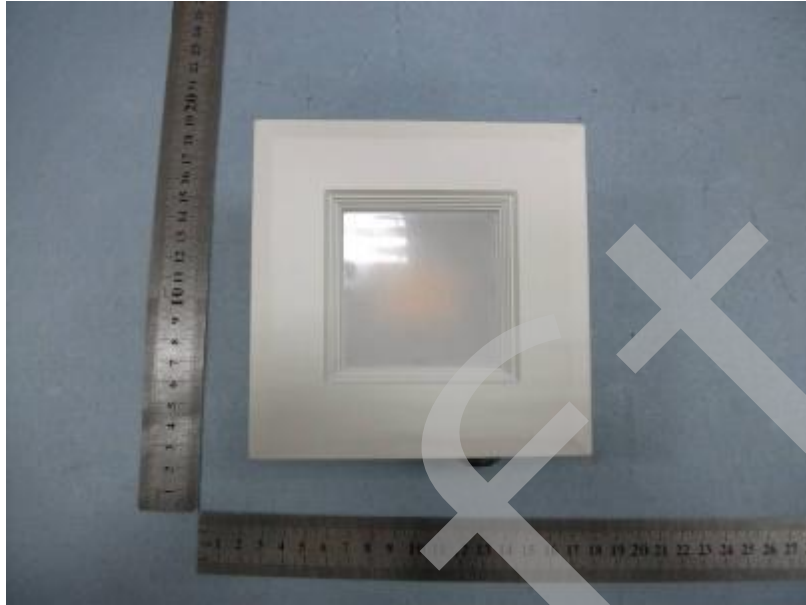
Intensity data(cd)								
$\psi/C(^{\circ})$	120.0	135.0	150.0	165.0	180.0	195.0	210.0	225.0
0	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066
5	322.1385	321.9416	321.8446	322.1997	322.1068	322.1997	321.8446	321.9416
10	315.4844	315.5531	315.7503	315.7995	315.8168	315.7995	315.7503	315.5531
15	304.824	304.9377	305.0883	305.6033	305.0998	305.6033	305.0883	304.9377
20	290.3013	290.7191	290.9264	291.079	290.896	291.079	290.9264	290.7191
25	271.6999	272.3198	272.5711	272.8908	272.7439	272.8908	272.5711	272.3198
30	249.9839	250.8898	251.7439	251.8143	251.3442	251.8143	251.7439	250.8898
35	226.2751	227.1822	227.8706	227.5287	227.278	227.5287	227.8706	227.1822
40	200.1292	202.167	201.9616	201.3144	200.9557	201.3144	201.9616	202.167
45	173.7558	175.356	175.5859	174.1218	173.2489	174.1218	175.5859	175.356
50	146.5661	148.7548	148.0789	145.2905	143.5764	145.2905	148.0789	148.7548
55	118.6721	122.3422	120.4967	117.0199	115.0491	117.0199	120.4967	122.3422
60	91.94498	94.65453	93.30499	89.50006	88.19693	89.50006	93.30499	94.65453
65	66.28426	68.34992	67.10699	64.02761	62.06261	64.02761	67.10699	68.34992
70	42.66951	44.2001	43.26045	40.63449	39.26131	40.63449	43.26045	44.2001
75	22.80485	23.47079	22.4572	21.43979	21.17752	21.43979	22.4572	23.47079
80	9.390465	9.368796	9.326822	9.386916	9.212818	9.386916	9.326822	9.368796
85	3.152221	3.152944	3.262768	3.263246	3.213376	3.263246	3.262768	3.152944
90	0.7749979	0.8272139	0.8604732	0.8528253	1.042638	0.8528253	0.8604732	0.8272139
95	0.6886265	0.715506	0.6726778	0.7312673	0.6836972	0.7312673	0.6726778	0.715506
100	0.7486206	0.7220533	0.7231287	0.7315606	0.7862517	0.7315606	0.7231287	0.7220533
105	0.7227609	0.706957	0.7407882	0.7227103	0.6666046	0.7227103	0.7407882	0.706957
110	0.722761	0.7311741	0.6972011	0.7067692	0.8204365	0.7067692	0.6972011	0.7311741
115	0.7987869	0.7630822	0.7236905	0.7480882	0.7349744	0.7480882	0.7236905	0.7630822
120	0.7566365	0.7146481	0.7234095	0.7575249	0.7349744	0.7575249	0.7234095	0.7146481
125	0.7481029	0.723483	0.7735795	0.7315606	0.8033442	0.7315606	0.7735795	0.723483
130	0.7646526	0.7223393	0.7732986	0.7147397	0.837529	0.7147397	0.7732986	0.7223393
135	0.6974189	0.8155195	0.8154814	0.756352	0.7862517	0.756352	0.8154814	0.8155195
140	0.6987131	0.731746	0.6983246	0.7330267	0.7520669	0.7330267	0.6983246	0.731746
145	0.8150777	0.8326173	0.7730178	0.789114	0.7691593	0.789114	0.7730178	0.8326173
150	0.7897357	0.8579782	0.8912982	0.8578636	0.8375289	0.8578636	0.8912982	0.8579782
155	0.9252382	0.8819091	0.8992853	0.925147	0.9058986	0.925147	0.8992853	0.8819091
160	1.008245	1.108441	1.008455	0.9829937	1.076823	0.9829937	1.008455	1.108441
165	1.101338	1.117847	1.143552	1.101326	1.145193	1.101326	1.143552	1.117847
170	1.108577	1.203051	1.143271	1.126411	1.162285	1.126411	1.143271	1.203051
175	1.209946	1.083938	1.134722	1.135848	1.230655	1.135848	1.134722	1.083938
180	1.15952	1.159734	1.11048	1.143232	1.230655	1.143232	1.11048	1.159734

Intensity data(cd)								
$\psi/C(^{\circ})$	240.0	255.0	270.0	285.0	300.0	315.0	330.0	345.0
0	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066	324.1066
5	322.1385	322.0103	321.8699	322.0103	322.1385	321.9416	321.8446	322.1997
10	315.4844	315.222	314.8906	315.222	315.4844	315.5531	315.7503	315.7995
15	304.824	304.825	304.0266	304.825	304.824	304.9377	305.0883	305.6033
20	290.3013	289.58	289.2608	289.58	290.3013	290.7191	290.9264	291.079
25	271.6999	271.1996	270.4252	271.1996	271.6999	272.3198	272.5711	272.8908
30	249.9839	249.428	248.5625	249.428	249.9839	250.8898	251.7439	251.8143
35	226.2751	224.931	223.7399	224.931	226.2751	227.1822	227.8706	227.5287
40	200.1292	198.8767	197.1346	198.8767	200.1292	202.167	201.9616	201.3144
45	173.7558	171.6443	169.5034	171.6443	173.7558	175.356	175.5859	174.1218
50	146.5661	143.0679	140.6783	143.0679	146.5661	148.7548	148.0789	145.2905
55	118.6721	114.9806	112.6435	114.9806	118.6721	122.3422	120.4967	117.0199
60	91.94498	87.96063	85.95418	87.96063	91.94498	94.65453	93.30499	89.50006
65	66.28426	63.12206	61.03067	63.12206	66.28426	68.34992	67.10699	64.02761
70	42.66951	40.40223	39.10066	40.40223	42.66951	44.2001	43.26045	40.63449
75	22.80485	21.66987	20.73596	21.66987	22.80485	23.47079	22.4572	21.43979
80	9.390465	9.447526	9.165531	9.447526	9.390465	9.368796	9.326822	9.386916
85	3.152221	3.146539	3.010331	3.146539	3.152221	3.152944	3.262768	3.263246
90	0.7749979	0.9086734	0.8576919	0.9086734	0.7749979	0.8272139	0.8604732	0.8528253
95	0.6886265	0.6644282	0.723152	0.6644282	0.6886265	0.715506	0.6726778	0.7312673
100	0.7486206	0.7741835	0.655882	0.7741835	0.7486206	0.7220533	0.7231287	0.7315606
105	0.7227609	0.7065472	0.7063345	0.7065472	0.7227609	0.706957	0.7407882	0.7227103
110	0.722761	0.7571347	0.7399694	0.7571347	0.722761	0.7311741	0.6972011	0.7067692
115	0.7987869	0.7233725	0.6726995	0.7233725	0.7987869	0.7630822	0.7236905	0.7480882
120	0.7566365	0.7238197	0.7904219	0.7238197	0.7566365	0.7146481	0.7234095	0.7575249
125	0.7481029	0.7823166	0.7567869	0.7823166	0.7481029	0.723483	0.7735795	0.7315606
130	0.7646526	0.7488897	0.7399694	0.7488897	0.7646526	0.7223393	0.7732986	0.7147397
135	0.6974189	0.7573583	0.7736045	0.7573583	0.6974189	0.8155195	0.8154814	0.756352
140	0.6987131	0.7404212	0.7567869	0.7404212	0.6987131	0.731746	0.6983246	0.7330267
145	0.8150777	0.782652	0.8408744	0.782652	0.8150777	0.8326173	0.7730178	0.789114
150	0.7897357	0.8920718	0.8240569	0.8920718	0.7897357	0.8579782	0.8912982	0.8578636
155	0.9252382	0.8998695	0.8745094	0.8998695	0.9252382	0.8819091	0.8992853	0.925147
160	1.008245	1.043051	1.042684	1.043051	1.008245	1.108441	1.008455	0.9829937
165	1.101338	1.144115	1.059502	1.144115	1.101338	1.117847	1.143552	1.101326
170	1.108577	1.152471	1.109954	1.152471	1.108577	1.203051	1.143271	1.126411
175	1.209946	1.12673	1.143589	1.12673	1.209946	1.083938	1.134722	1.135848
180	1.15952	1.161499	1.143589	1.161499	1.15952	1.159734	1.11048	1.143232

Intensity data(cd)

$\gamma/C(^{\circ})$	360.0
0	324.1066
5	322.1068
10	315.8168
15	305.0998
20	290.896
25	272.7439
30	251.3442
35	227.278
40	200.9557
45	173.2489
50	143.5764
55	115.0491
60	88.19693
65	62.06261
70	39.26131
75	21.17752
80	9.212818
85	3.213376
90	1.042638
95	0.6836972
100	0.7862517
105	0.6666046
110	0.8204365
115	0.7349744
120	0.7349744
125	0.8033442
130	0.837529
135	0.7862517
140	0.7520669
145	0.7691593
150	0.8375289
155	0.9058986
160	1.076823
165	1.145193
170	1.162285
175	1.230655
180	1.230655

Photo of Test Sample



Picture 1



Picture 2

----End of test report----