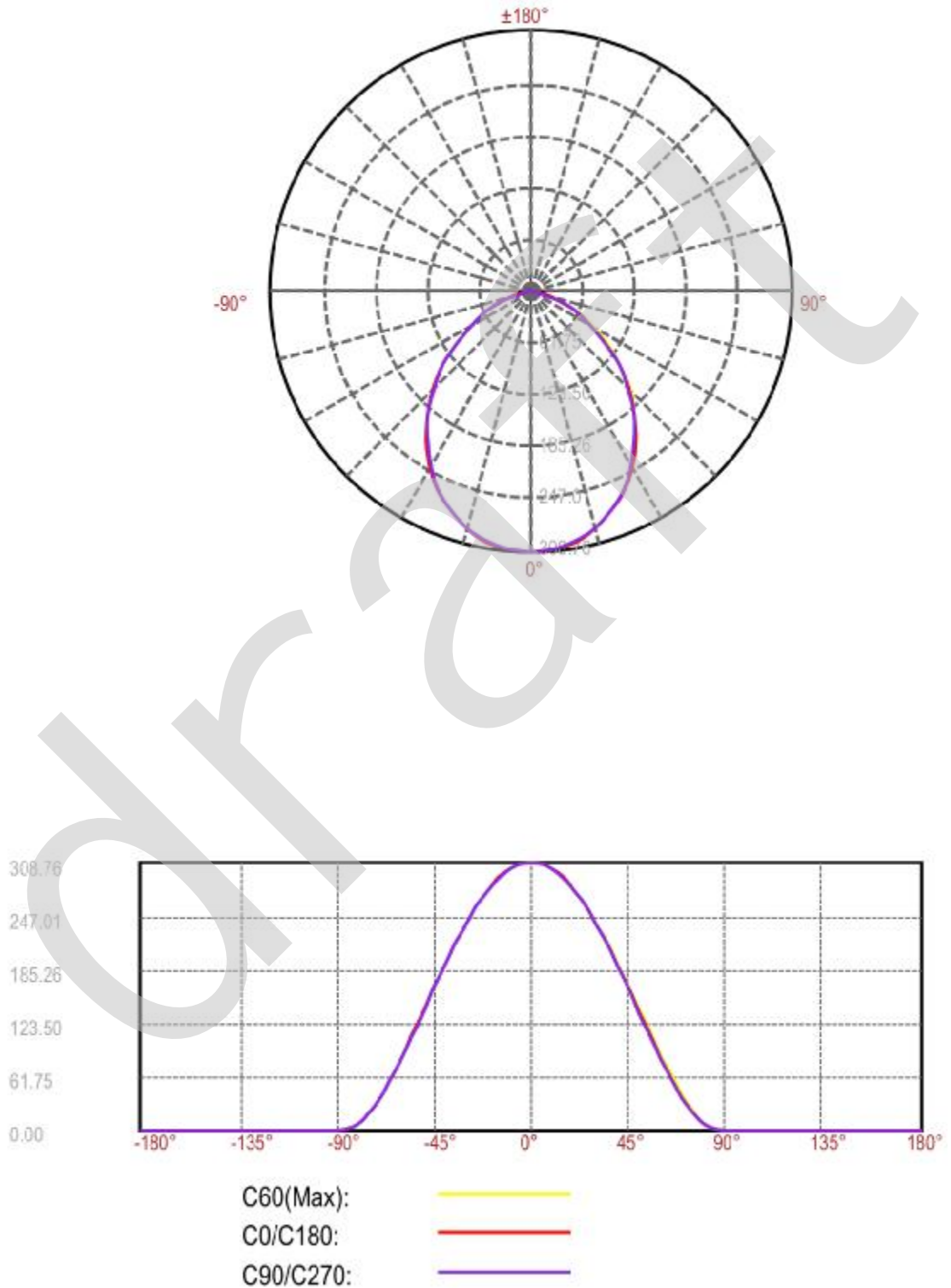


<b>Test Report Number:</b>	LCZP14110319	<b>Total Page(s):</b>	12
<b>Applicant Name:</b>	L-TECH CORPORATION		
<b>Applicant Address:</b>	SHAOGANGTOU DISTRICT, QIAOTOU TOWN, DONGGUAN CITY. GUANGDONG PROVINCE, CHINA		
<b>Test item:</b>	LED Downlight		
<b>Model / Type Reference:</b>	LRTK449-3090		
<b>Date of Issue:</b>	2014-12-01		
<b>Testing Laboratory:</b>	LCTECH (Zhongshan) Testing Service Co., Ltd. 2/F., Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China		
<b>Test Specification:</b>	Photometric test (According to IES LM-79-08)		
<b>Test Result:</b>	See following pages		
<b>Compiled by:</b>	<b>Reviewed by:</b>		
<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>
<b>Remark:</b>	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>			

<b>Sample Description</b>									
Luminaire Type	LED Downlight			Model/Type	LRTK449-3090				
Input Type	<input checked="" type="checkbox"/> AC		<input type="checkbox"/> DC		Rated Voltage	120V 50/60Hz			
Rated Wattage	10 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				
<b>Test Condition</b>									
Temperature	25.0°C			Humidity	60%				
Test Equipment	LC-I-902 GMS-2000			Test Mode	C-Gamma				
Test Date	2014-11-29			Test Method	Absolutely photometric				
Azimuth (C)	15			Elevation (Gamma)	5				
Test distance	29.41 m			Uncertainty	Considered				
<b>Characteristics</b>									
Input Voltage	119.95 V			Input Current	0.088 A				
Wattage	10.52 W			Power Factor	0.994				
Total lumens	680.64 lm			Luminous Efficacy	64.70 lm/W				
Central Intensity	308.762 cd			Max intensity	308.762 cd				
Beam Angle(50%Imax)	93.0°			Angle of max intensity	C=60,Gamma=0				
Maximum S/H	C0=1.16,C90=1.16			CIE Type	Direct lighting				
<b>Luminance Data (cd/m<sup>2</sup>)</b>									
Gamma	45	50	55	60	65	70	75	80	85
C0	45913	41852	37486	32816	27281	21147	14518	8971	5401
C45	46787	43585	39912	35392	30024	23850	16065	8773	5071
C90	45594	41685	37417	32429	27149	21243	14600	8803	5025

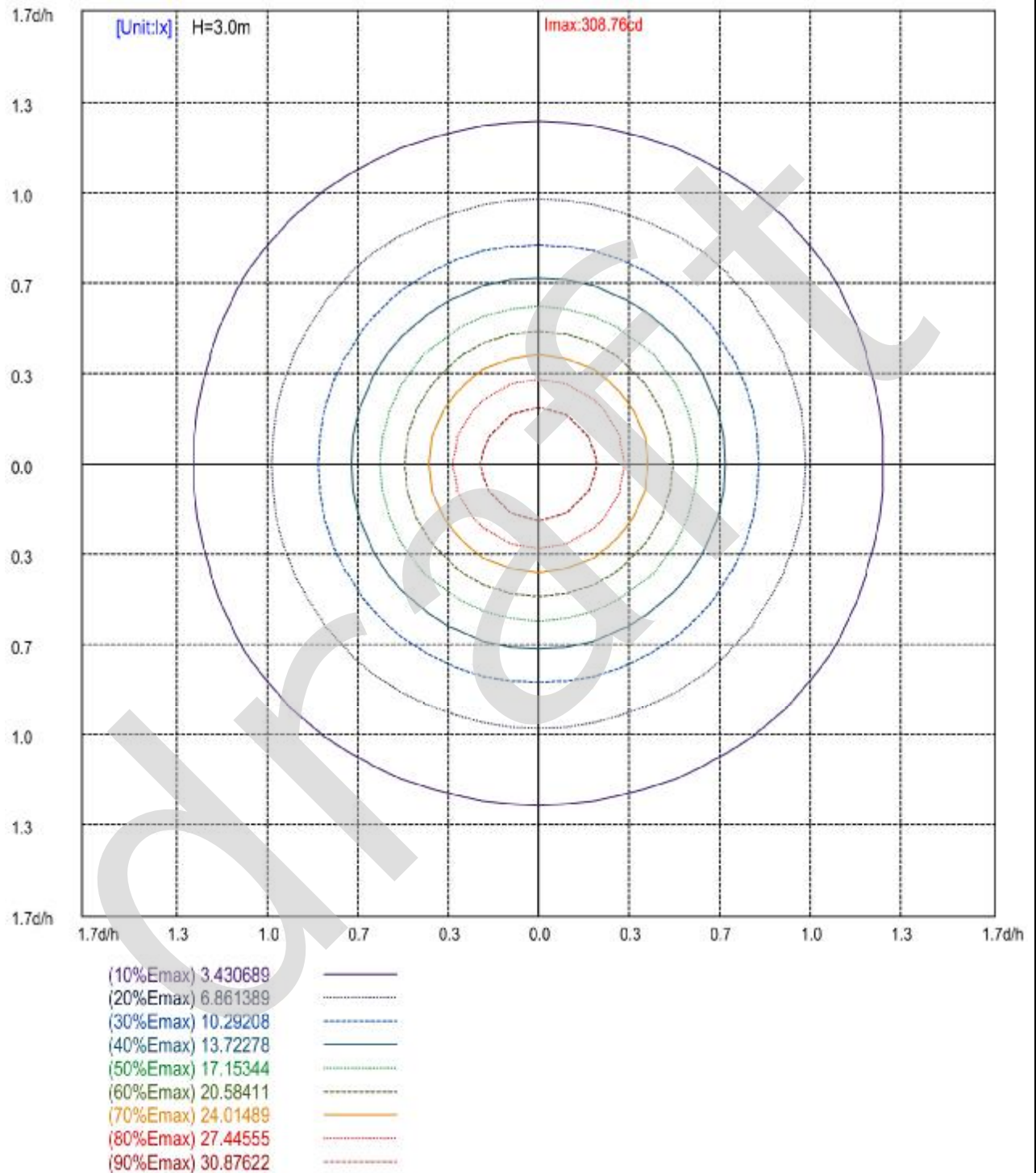
**Light Distribution Curve(cd)**



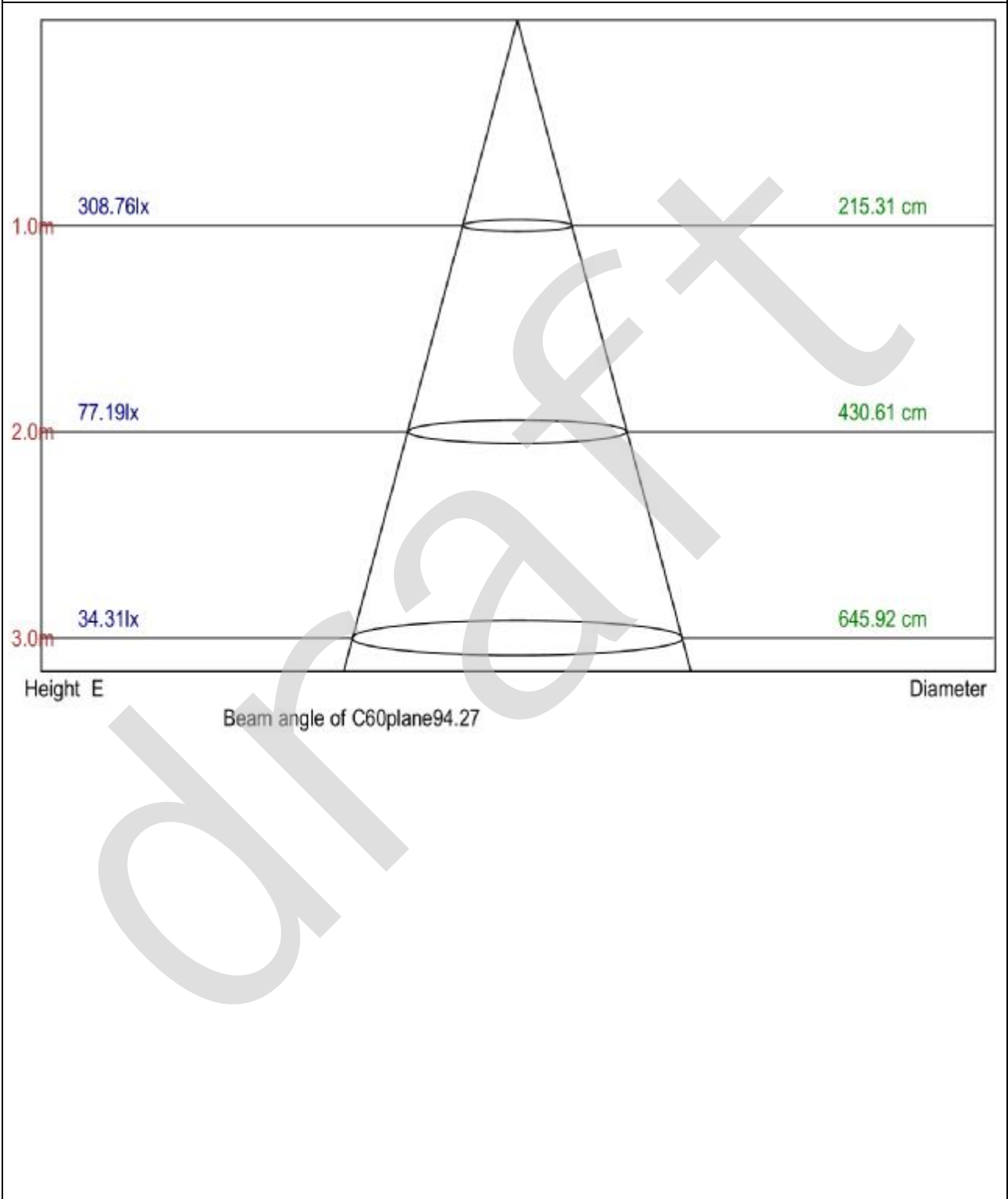
**Zonal flux distribution table**

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(lm)	Eff Sum(lm)
0.0	308.762	.000	.000	.000%	.000%
5.0	306.754	7.358	7.358	1.081%	1.081%
10.0	300.590	21.727	29.085	3.192%	4.273%
15.0	290.431	35.059	64.144	5.151%	9.424%
20.0	276.707	46.740	110.884	6.867%	16.291%
25.0	259.140	56.200	167.085	8.257%	24.548%
30.0	238.650	62.996	230.080	9.255%	33.804%
35.0	215.665	66.901	296.981	9.829%	43.633%
40.0	190.902	67.833	364.814	9.966%	53.599%
45.0	165.102	65.917	430.731	9.685%	63.283%
50.0	138.285	61.304	492.035	9.007%	72.290%
55.0	111.623	54.338	546.373	7.983%	80.273%
60.0	85.556	45.577	591.950	6.696%	86.970%
65.0	61.107	35.654	627.604	5.238%	92.208%
70.0	38.775	25.291	652.895	3.716%	95.924%
75.0	20.069	15.361	668.276	2.260%	98.183%
80.0	7.779	7.451	675.727	1.095%	99.278%
85.0	2.278	2.733	678.460	.402%	99.680%
90.0	.191	.676	679.137	.099%	99.779%
95.0	.173	.100	679.236	.015%	99.794%
100.0	.198	.101	679.337	.015%	99.809%
105.0	.195	.105	679.442	.015%	99.824%
110.0	.191	.101	679.543	.015%	99.839%
115.0	.213	.102	679.645	.015%	99.854%
120.0	.187	.097	679.743	.014%	99.868%
125.0	.213	.092	679.835	.014%	99.882%
130.0	.249	.100	679.935	.015%	99.896%
135.0	.245	.100	680.035	.015%	99.911%
140.0	.227	.087	680.123	.013%	99.924%
145.0	.256	.081	680.203	.012%	99.936%
150.0	.299	.082	680.285	.012%	99.948%
155.0	.357	.083	680.368	.012%	99.960%
160.0	.425	.082	680.450	.012%	99.972%
165.0	.537	.079	680.529	.012%	99.984%
170.0	.544	.064	680.593	.009%	99.993%
175.0	.523	.038	680.632	.006%	99.999%
180.0	.548	.013	680.644	.002%	100.001%

### 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	1.02	1.02	1.02	1.00
1	1.06	1.03	0.99	1.04	1.01	0.98	1.00	0.97	0.95	0.96	0.94	0.92	0.92	0.91	0.89	0.87
2	0.94	0.88	0.83	0.92	0.87	0.82	0.89	0.84	0.80	0.86	0.82	0.78	0.83	0.79	0.77	0.75
3	0.84	0.76	0.71	0.82	0.75	0.70	0.79	0.73	0.69	0.77	0.72	0.67	0.74	0.70	0.66	0.64
4	0.76	0.67	0.61	0.74	0.66	0.60	0.71	0.65	0.60	0.69	0.63	0.59	0.67	0.62	0.58	0.56
5	0.68	0.59	0.53	0.66	0.59	0.53	0.64	0.57	0.52	0.62	0.56	0.52	0.61	0.55	0.51	0.49
6	0.61	0.53	0.47	0.60	0.52	0.47	0.58	0.51	0.46	0.57	0.51	0.46	0.55	0.50	0.45	0.43
7	0.56	0.48	0.42	0.55	0.47	0.42	0.53	0.46	0.41	0.52	0.46	0.41	0.51	0.45	0.41	0.39
8	0.51	0.43	0.38	0.50	0.43	0.37	0.49	0.42	0.37	0.48	0.42	0.37	0.47	0.41	0.37	0.35
9	0.47	0.39	0.34	0.46	0.39	0.34	0.45	0.39	0.34	0.44	0.38	0.34	0.43	0.36	0.33	0.32
10	0.44	0.36	0.31	0.43	0.36	0.31	0.42	0.35	0.31	0.41	0.35	0.31	0.40	0.35	0.31	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	308.7623	308.7623	308.7623	308.7623	308.7624	308.7623	308.7623	308.7623
5	306.8207	307.01	306.5564	306.7291	306.6851	306.7493	306.7709	306.7493
10	300.6506	300.9108	300.5231	300.629	300.5834	300.4503	300.2337	300.4503
15	290.8562	290.5512	290.3594	290.2898	290.4142	290.2766	290.5362	290.2766
20	276.6607	277.0543	276.6921	276.8558	276.6092	276.5313	276.3362	276.5313
25	259.4881	259.299	259.3704	259.1841	259.213	258.8027	258.4564	258.8027
30	238.389	239.1633	239.2155	238.8728	238.6577	237.8928	237.8059	237.8928
35	215.4346	215.6963	216.4231	215.965	216.047	215.099	214.0816	215.099
40	190.2366	190.9317	191.4885	192.4301	190.9046	189.7944	189.4914	189.7944
45	163.6578	164.8919	166.2308	166.775	165.5674	164.0572	162.5202	164.0572
50	135.6121	137.2724	140.0436	141.2291	139.3648	136.4582	135.0727	136.4582
55	108.3861	110.151	113.639	115.4011	112.8159	109.4436	108.188	109.4436
60	82.71345	84.11082	87.51661	89.2058	86.93791	83.33823	81.73631	83.33823
65	58.11946	59.90931	62.75515	63.9631	62.53151	59.50588	57.83882	59.50588
70	36.4595	37.4377	39.70366	41.12107	39.96373	37.88121	36.62548	37.88121
75	18.94168	19.35707	20.2842	20.96051	20.87986	19.93621	19.04871	19.93621
80	7.852815	7.872733	7.720037	7.679153	7.811087	7.814239	7.706071	7.814239
85	2.373103	2.335841	2.292264	2.228077	2.250225	2.272885	2.207919	2.272885
90	0.1725893	0.194611	0.1730011	0.1947389	0.1730975	0.2381335	0.1731701	0.2381335
95	0.1725893	0.1514395	0.1730011	0.1513612	0.1947559	0.1947923	0.1731701	0.1947923
100	0.2157367	0.1946958	0.1945808	0.2163125	0.1514391	0.238085	0.1731701	0.238085
105	0.129442	0.1729404	0.173092	0.1947389	0.2379878	0.2164629	0.2164627	0.2164629
110	0.1725893	0.2162815	0.1946717	0.2163125	0.1947559	0.1515483	0.1731701	0.1515483
115	0.258884	0.1731101	0.2378311	0.2161974	0.1730975	0.2380364	0.2164627	0.2380364
120	0.1725893	0.1729404	0.2162514	0.1946237	0.2163719	0.1515483	0.1731701	0.1515483
125	0.2157367	0.194611	0.2378311	0.1946237	0.2164143	0.2164629	0.2164627	0.2164629
130	0.258884	0.2380369	0.2162514	0.3028376	0.2596462	0.2164629	0.2597552	0.2164629
135	0.2157367	0.1946958	0.3027519	0.2164277	0.2380303	0.2598041	0.3030477	0.2598041
140	0.2157367	0.1946958	0.2595016	0.2163125	0.2596038	0.1948409	0.2597552	0.1948409
145	0.1725893	0.2595378	0.2594108	0.237771	0.2813047	0.2813775	0.2597552	0.2813775
150	0.258884	0.302879	0.2811722	0.3245264	0.3245366	0.3029995	0.2597552	0.3029995
155	0.4314734	0.3460504	0.3244225	0.3245264	0.4110853	0.3463407	0.3463403	0.3463407
160	0.4314733	0.4326479	0.4109231	0.4326251	0.4110853	0.4329259	0.4329253	0.4329259
165	0.4746207	0.562332	0.5189124	0.5622975	0.5192924	0.5411816	0.5628029	0.5411816
170	0.4746207	0.5839177	0.5406739	0.5191501	0.5409509	0.5844742	0.5195104	0.5844742
175	0.517768	0.49749	0.4758439	0.5191501	0.5409084	0.5628036	0.5628029	0.5628036
180	0.517768	0.6055883	0.5623444	0.5191501	0.5192924	0.562755	0.5195104	0.562755



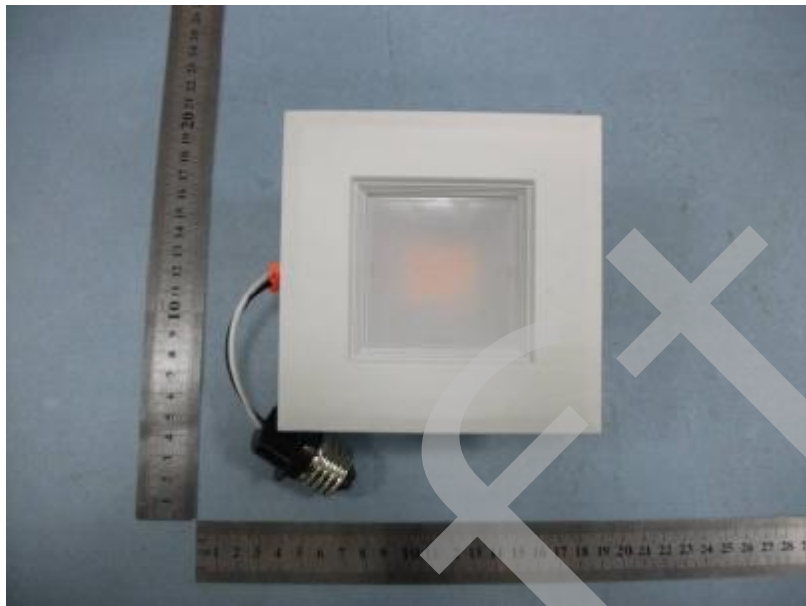
Intensity data(cd)								
$\gamma/C(^{\circ})$	120.0	135.0	150.0	165.0	180.0	195.0	210.0	225.0
0	308.7623	308.7623	308.7623	308.7623	308.7623	308.7623	308.7623	308.7623
5	306.6851	306.7291	306.5564	307.01	306.8207	307.01	306.5564	306.7291
10	300.5834	300.629	300.5231	300.9108	300.6506	300.9108	300.5231	300.629
15	290.4142	290.2898	290.3594	290.5512	290.8562	290.5512	290.3594	290.2898
20	276.6092	276.8558	276.6921	277.0543	276.6607	277.0543	276.6921	276.8558
25	259.213	259.1841	259.3704	259.299	259.4881	259.299	259.3704	259.1841
30	238.6577	238.8728	239.2155	239.1633	238.389	239.1633	239.2155	238.8728
35	216.047	215.965	216.4231	215.6963	215.4346	215.6963	216.4231	215.965
40	190.9046	192.4301	191.4885	190.9317	190.2366	190.9317	191.4885	192.4301
45	165.5674	166.775	166.2308	164.8919	163.6578	164.8919	166.2308	166.775
50	139.3648	141.2291	140.0436	137.2724	135.6121	137.2724	140.0436	141.2291
55	112.8159	115.4011	113.639	110.151	108.3861	110.151	113.639	115.4011
60	86.93791	89.2058	87.51661	84.11082	82.71345	84.11082	87.51661	89.2058
65	62.53151	63.9631	62.75515	59.90931	58.11946	59.90931	62.75515	63.9631
70	39.96373	41.12107	39.70366	37.4377	36.4595	37.4377	39.70366	41.12107
75	20.87986	20.96051	20.2842	19.35707	18.94168	19.35707	20.2842	20.96051
80	7.811087	7.679153	7.720037	7.872733	7.852815	7.872733	7.720037	7.679153
85	2.250225	2.228077	2.292264	2.335841	2.373103	2.335841	2.292264	2.228077
90	0.1730975	0.1947389	0.1730011	0.194611	0.1725893	0.194611	0.1730011	0.1947389
95	0.1947559	0.1513612	0.1730011	0.1514395	0.1725893	0.1514395	0.1730011	0.1513612
100	0.1514391	0.2163125	0.1945808	0.1946958	0.2157367	0.1946958	0.1945808	0.2163125
105	0.2379878	0.1947389	0.173092	0.1729404	0.129442	0.1729404	0.173092	0.1947389
110	0.1947559	0.2163125	0.1946717	0.2162815	0.1725893	0.2162815	0.1946717	0.2163125
115	0.1730975	0.2161974	0.2378311	0.1731101	0.258884	0.1731101	0.2378311	0.2161974
120	0.2163719	0.1946237	0.2162514	0.1729404	0.1725893	0.1729404	0.2162514	0.1946237
125	0.2164143	0.1946237	0.2378311	0.194611	0.2157367	0.194611	0.2378311	0.1946237
130	0.2596462	0.3028376	0.2162514	0.2380369	0.258884	0.2380369	0.2162514	0.3028376
135	0.2380303	0.2164277	0.3027519	0.1946958	0.2157367	0.1946958	0.3027519	0.2164277
140	0.2596038	0.2163125	0.2595016	0.1946958	0.2157367	0.1946958	0.2595016	0.2163125
145	0.2813047	0.237771	0.2594108	0.2595378	0.1725893	0.2595378	0.2594108	0.237771
150	0.3245366	0.3245264	0.2811722	0.302879	0.258884	0.302879	0.2811722	0.3245264
155	0.4110853	0.3245264	0.3244225	0.3460504	0.4314734	0.3460504	0.3244225	0.3245264
160	0.4110853	0.4326251	0.4109231	0.4326479	0.4314733	0.4326479	0.4109231	0.4326251
165	0.5192924	0.5622975	0.5189124	0.562332	0.4746207	0.562332	0.5189124	0.5622975
170	0.5409509	0.5191501	0.5406739	0.5839177	0.4746207	0.5839177	0.5406739	0.5191501
175	0.5409084	0.5191501	0.4758439	0.49749	0.517768	0.49749	0.4758439	0.5191501
180	0.5192924	0.5191501	0.5623444	0.6055883	0.517768	0.6055883	0.5623444	0.5191501

Intensity data(cd)								
$\gamma/C(^{\circ})$	240.0	255.0	270.0	285.0	300.0	315.0	330.0	345.0
0	308.7624	308.7623	308.7623	308.7623	308.7623	308.7623	308.7623	308.7623
5	306.6851	306.7493	306.7709	306.7493	306.6851	306.7291	306.5564	307.01
10	300.5834	300.4503	300.2337	300.4503	300.5834	300.629	300.5231	300.9108
15	290.4142	290.2766	290.5362	290.2766	290.4142	290.2898	290.3594	290.5512
20	276.6092	276.5313	276.3362	276.5313	276.6092	276.8558	276.6921	277.0543
25	259.213	258.8027	258.4564	258.8027	259.213	259.1841	259.3704	259.299
30	238.6577	237.8928	237.8059	237.8928	238.6577	238.8728	239.2155	239.1633
35	216.047	215.099	214.0816	215.099	216.047	215.965	216.4231	215.6963
40	190.9046	189.7944	189.4914	189.7944	190.9046	192.4301	191.4885	190.9317
45	165.5674	164.0572	162.5202	164.0572	165.5674	166.775	166.2308	164.8919
50	139.3648	136.4582	135.0727	136.4582	139.3648	141.2291	140.0436	137.2724
55	112.8159	109.4436	108.188	109.4436	112.8159	115.4011	113.639	110.151
60	86.93791	83.33823	81.73631	83.33823	86.93791	89.2058	87.51661	84.11082
65	62.53151	59.50588	57.83882	59.50588	62.53151	63.9631	62.75515	59.90931
70	39.96373	37.88121	36.62548	37.88121	39.96373	41.12107	39.70366	37.4377
75	20.87986	19.93621	19.04871	19.93621	20.87986	20.96051	20.2842	19.35707
80	7.811087	7.814239	7.706071	7.814239	7.811087	7.679153	7.720037	7.872733
85	2.250225	2.272885	2.207919	2.272885	2.250225	2.228077	2.292264	2.335841
90	0.1730975	0.2381335	0.1731701	0.2381335	0.1730975	0.1947389	0.1730011	0.194611
95	0.1947559	0.1947923	0.1731701	0.1947923	0.1947559	0.1513612	0.1730011	0.1514395
100	0.1514391	0.238085	0.1731701	0.238085	0.1514391	0.2163125	0.1945808	0.1946958
105	0.2379878	0.2164629	0.2164627	0.2164629	0.2379878	0.1947389	0.173092	0.1729404
110	0.1947559	0.1515483	0.1731701	0.1515483	0.1947559	0.2163125	0.1946717	0.2162815
115	0.1730975	0.2380364	0.2164627	0.2380364	0.1730975	0.2161974	0.2378311	0.1731101
120	0.2163719	0.1515483	0.1731701	0.1515483	0.2163719	0.1946237	0.2162514	0.1729404
125	0.2164143	0.2164629	0.2164627	0.2164629	0.2164143	0.1946237	0.2378311	0.194611
130	0.2596462	0.2164629	0.2597552	0.2164629	0.2596462	0.3028376	0.2162514	0.2380369
135	0.2380303	0.2598041	0.3030477	0.2598041	0.2380303	0.2164277	0.3027519	0.1946958
140	0.2596038	0.1948409	0.2597552	0.1948409	0.2596038	0.2163125	0.2595016	0.1946958
145	0.2813047	0.2813775	0.2597552	0.2813775	0.2813047	0.237771	0.2594108	0.2595378
150	0.3245366	0.3029995	0.2597552	0.3029995	0.3245366	0.3245264	0.2811722	0.302879
155	0.4110853	0.3463407	0.3463403	0.3463407	0.4110853	0.3245264	0.3244225	0.3460504
160	0.4110853	0.4329259	0.4329253	0.4329259	0.4110853	0.4326251	0.4109231	0.4326479
165	0.5192924	0.5411816	0.5628029	0.5411816	0.5192924	0.5622975	0.5189124	0.562332
170	0.5409509	0.5844742	0.5195104	0.5844742	0.5409509	0.5191501	0.5406739	0.5839177
175	0.5409084	0.5628036	0.5628029	0.5628036	0.5409084	0.5191501	0.4758439	0.49749
180	0.5192924	0.562755	0.5195104	0.562755	0.5192924	0.5191501	0.5623444	0.6055883

**Intensity data(cd)**

$\gamma/C(^{\circ})$	360.0
0	308.7623
5	306.8207
10	300.6506
15	290.8562
20	276.6607
25	259.4881
30	238.389
35	215.4346
40	190.2366
45	163.6578
50	135.6121
55	108.3861
60	82.71345
65	58.11946
70	36.4595
75	18.94168
80	7.852815
85	2.373103
90	0.1725893
95	0.1725893
100	0.2157367
105	0.129442
110	0.1725893
115	0.258884
120	0.1725893
125	0.2157367
130	0.258884
135	0.2157367
140	0.2157367
145	0.1725893
150	0.258884
155	0.4314734
160	0.4314733
165	0.4746207
170	0.4746207
175	0.517768
180	0.517768

**Photo of Test Sample**



Picture 1



Picture 2

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