

## 燈具配光曲線試驗報告

測試標準：CIE 70 (1987 年版)、CIE 84 (1989 年版)

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測試日期：106 年 01 月 20 日 至 106 年 01 月 23 日

1. 報告發行日期：106 年 04 月 07 日
  2. 報告編號：17011704-1
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- 備註：本報告取代報告 No. 17011704，原報告聲明作廢。

報告簽署人：



## 試驗報告

### 測試樣品基本資料

委測廠商：昶旭能源股份有限公司  
委測廠商地址：新竹市東區公道五路二段 83 號 5F-3  
製造廠商：昶旭能源股份有限公司  
製造廠商地址：新竹市東區公道五路二段 83 號 5F-3  
商標或廠牌：CooLED  
產品名稱：LED 泛光燈  
型號：F2036C-001  
額定電壓(V)：100~240  
額定頻率(Hz)：50/60  
額定功率(W)：33  
適用光源：LED  
LED chip 廠牌/型號：Lumileds/LUXEON 3030 2D  
搭配驅動器廠牌/型號：KEY POWER/KPN-30WY-40V-800  
燈具尺寸：長 227 mm、寬 167 mm、高 40 mm

-以下空白-

## 試驗內容

### 試驗條件

環境溫度 (°C)	25.2
環境濕度(%)	59.1
$\gamma$ 軸取樣步距	5°
C 軸取樣步距	5°

### 電氣測試

試驗項目	試驗結果
電壓(V)	220.0
頻率(Hz)	60
電流(A)	0.159
功率(W)	33.0
功率因數	0.943

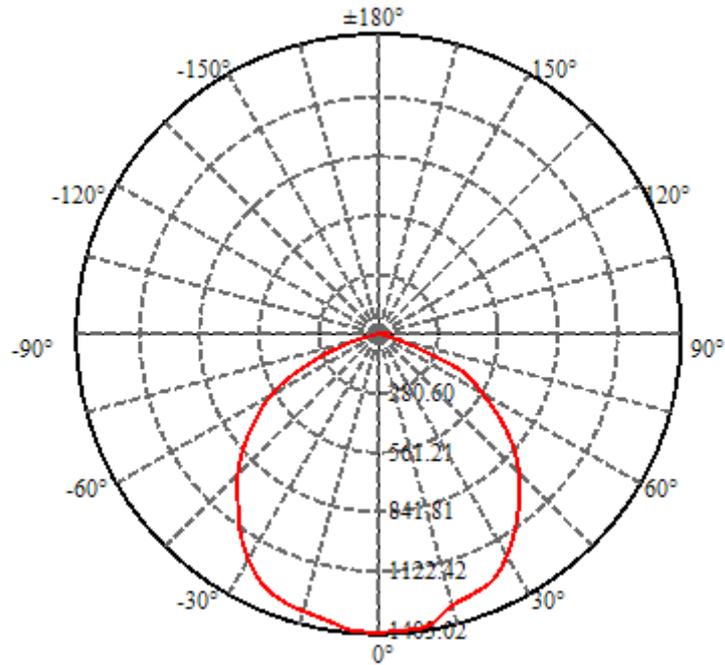
### 配光量測

試驗項目	試驗結果
燈具全光通量 (lm)	3694.6
燈具發光效率 (lm/W)	112.0
中心光強度 (cd)	1394.8
最大光強度 (cd)	1403.0
最大光強度角度 (°)	C : 110.0 $\gamma$ : 0.0
色溫 (K)	5178
演色性(Ra)	83.4
半峰邊角 (50% I <sub>max</sub> )	C0_180    L=55.0    R=54.7
	C90_270   L=54.1    R=54.9

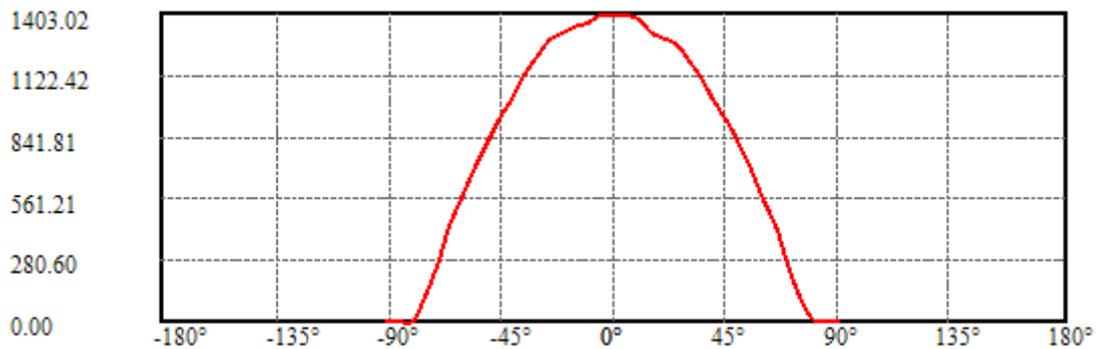
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### 配光曲線圖(一)

極座標圖 C0 / 180

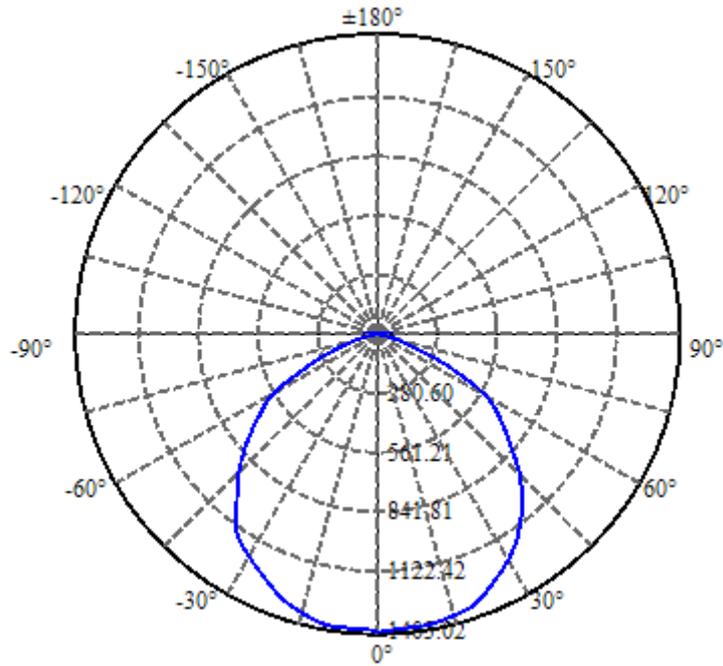


直角座標圖 C0 / 180

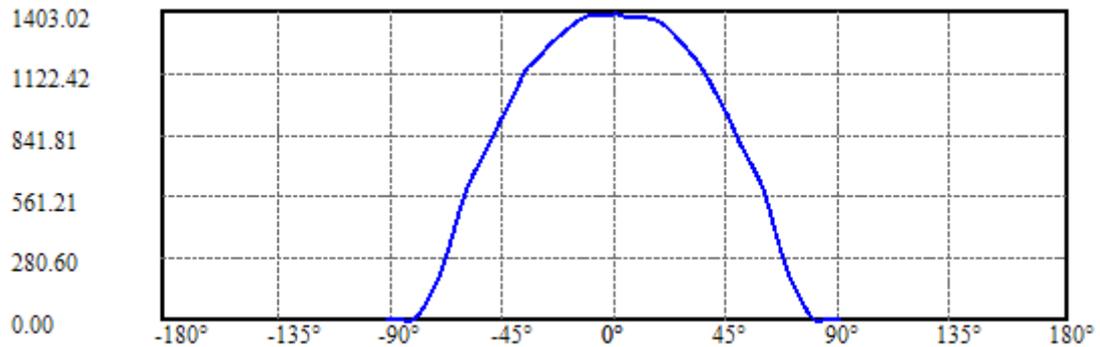


### 配光曲線圖(二)

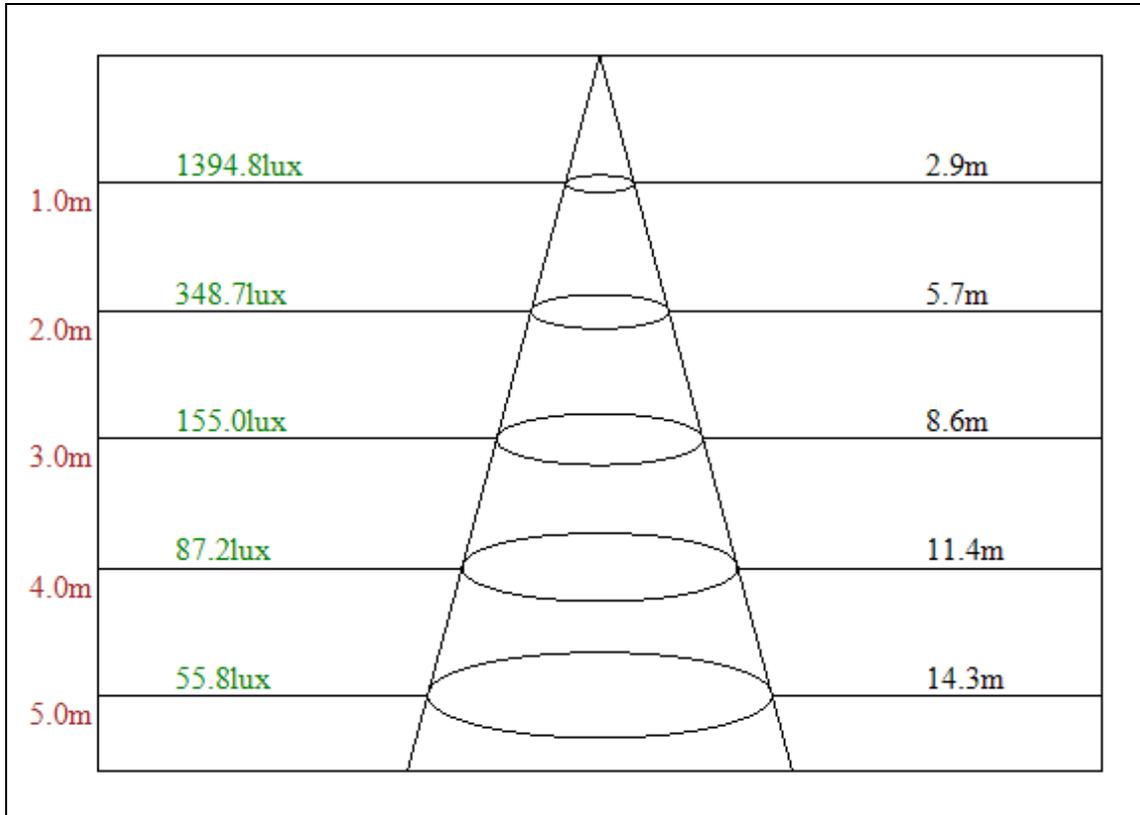
極座標圖 C90 / 270



直角座標圖 C90 / 270



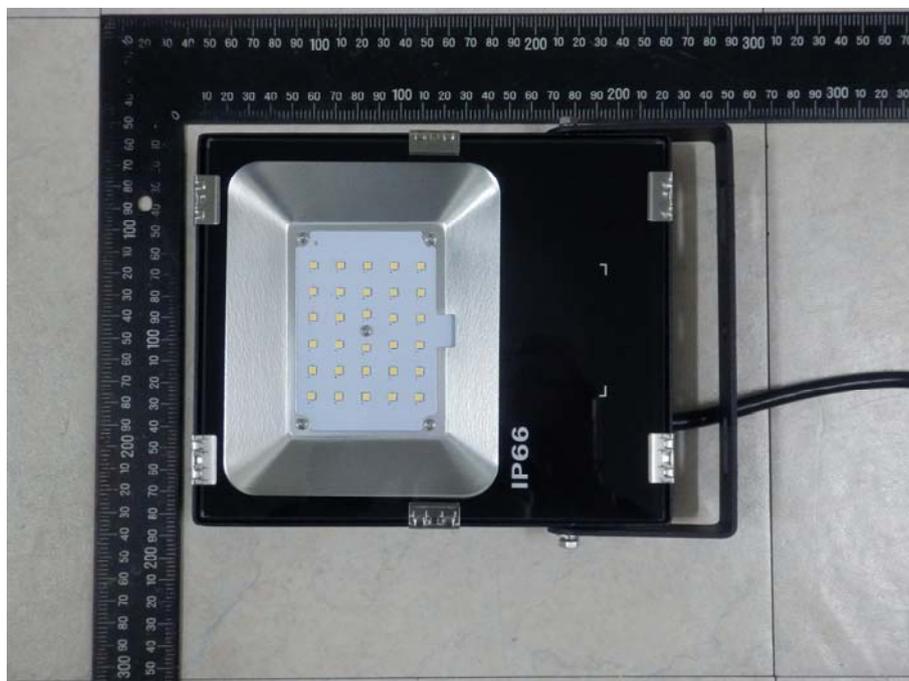
照度距離表



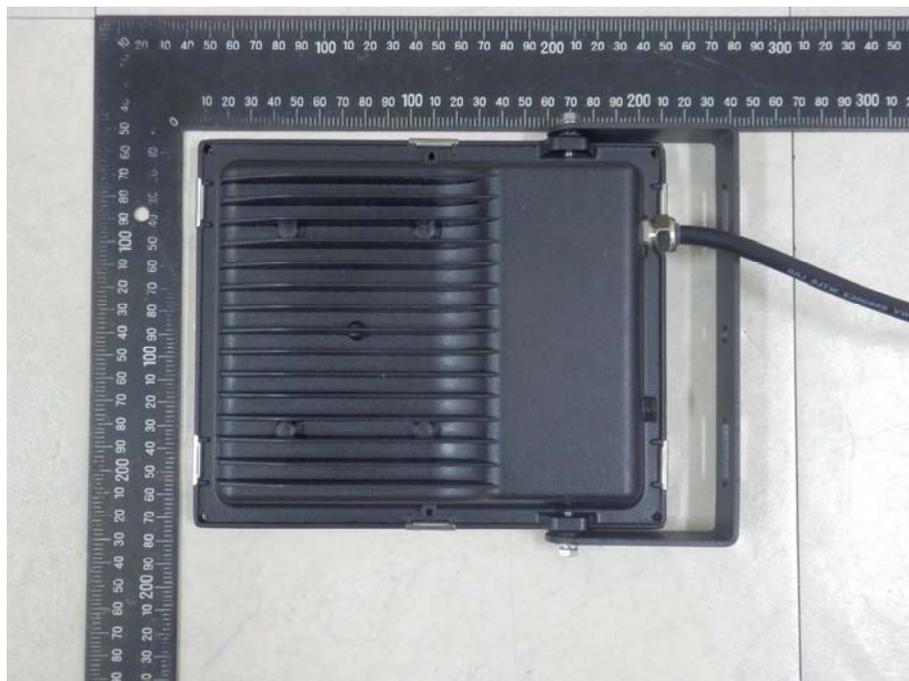
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### 測試樣品照片

測試樣品外觀

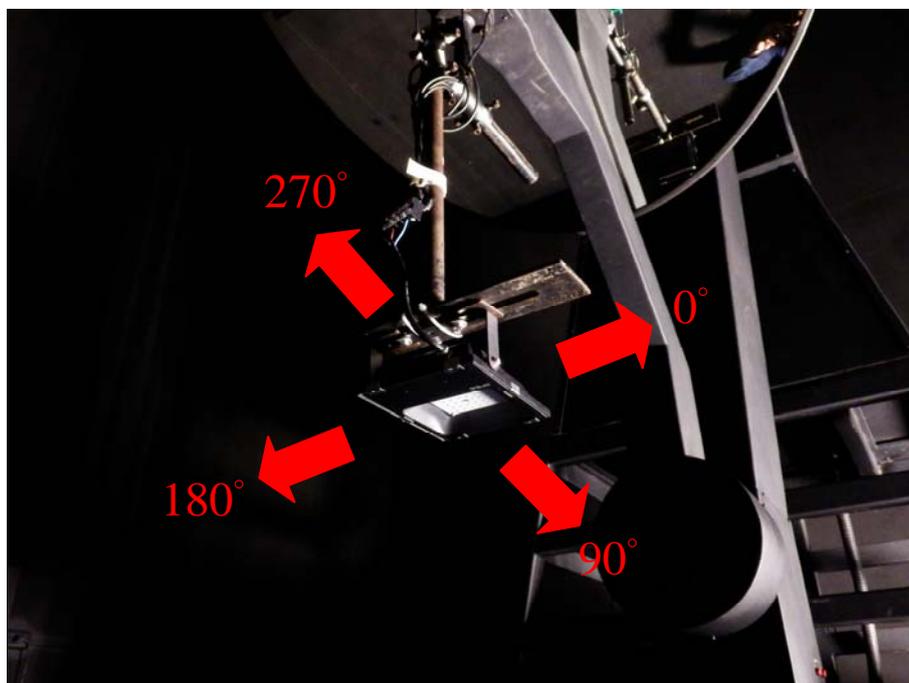


測試樣品外觀



### 測試樣品照片

測試樣品架設方向



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### 光強數據表(一)

光強數據表(cd)

$\gamma/C(^{\circ})$	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0
0	1394.813	1399.341	1391.134	1397.502	1394.742	1391.771	1388.799	1391.983
5	1394.53	1394.884	1389.719	1387.596	1382.855	1395.945	1394.176	1384.553
10	1377.266	1370.261	1368.775	1365.237	1377.266	1368.492	1366.935	1371.322
15	1312.382	1332.619	1338.067	1341.251	1342.878	1338.703	1340.897	1339.199
20	1292.924	1296.745	1303.042	1305.731	1300.849	1301.274	1300.566	1300.425
25	1261.297	1261.509	1256.556	1255.07	1254.009	1258.466	1264.693	1266.957
30	1191.46	1196.838	1195.564	1193.583	1201.083	1209.291	1208.866	1216.225
35	1108.039	1110.728	1113.487	1123.676	1127.78	1141.365	1151.2	1153.181
40	1012.306	1014.287	1023.769	1029.854	1038.627	1053.274	1069.123	1072.095
45	917.3515	921.1016	922.5167	932.2103	945.7954	949.8993	961.4326	974.2393
50	821.4772	815.6044	811.7836	817.5856	832.3029	844.2606	853.4589	855.9353
55	691.3569	694.0456	699.423	704.8005	715.697	722.4188	725.4613	718.3149
60	561.8027	563.5715	570.5764	579.2086	586.9918	590.5295	587.0625	583.3832
65	430.5503	435.0079	436.2815	442.1542	446.7534	447.8855	445.8336	448.027
70	249.0611	251.6791	256.066	259.6038	260.9482	258.9669	272.0568	299.6517
75	96.08665	101.3933	113.7756	120.5682	123.3277	124.4598	115.4738	105.7802
80	12.66532	15.2833	13.79742	15.49556	13.08986	12.59457	17.19371	12.59457
85	0.919828	0.919828	0.919828	0.849072	0.849072	0.849072	0.778316	0.778316
90	0.35378	0.424536	0.35378	0.35378	0.35378	0.424536	0.424536	0.35378

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光強數據表(二)

光強數據表(cd)

第 2 頁 共 10 頁

$\gamma/C(^{\circ})$	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0
0	1387.525	1382.643	1387.879	1392.337	1394.884	1397.006	1398.705	1398.917
5	1375.78	1378.327	1383.492	1387.525	1391.912	1388.233	1385.473	1393.327
10	1380.025	1387.879	1384.2	1377.973	1373.94	1379.105	1382.785	1381.794
15	1346.77	1347.406	1347.69	1346.911	1349.812	1352.713	1353.987	1356.039
20	1291.509	1297.028	1305.802	1315.425	1320.873	1324.057	1320.944	1321.298
25	1271.131	1261.084	1268.089	1274.599	1278.278	1275.377	1282.099	1286.769
30	1223.088	1233.206	1223.796	1223.654	1224.786	1230.871	1226.343	1229.739
35	1160.469	1172.285	1164.361	1159.762	1159.266	1147.45	1148.228	1145.61
40	1080.303	1081.788	1080.869	1075.774	1069.052	1058.227	1052.92	1044.571
45	976.8573	977.4941	975.7252	967.2345	957.541	955.5598	941.9746	942.1868
50	850.4164	850.4164	850.9824	840.4398	836.7605	829.6849	825.864	821.2649
55	716.9705	711.6639	707.2062	707.277	710.8148	705.3666	706.994	707.0647
60	582.1096	583.3124	579.9869	579.1378	580.4822	585.0106	584.2323	581.6851
65	447.6024	444.7722	444.2769	439.3947	422.3426	373.4502	367.0114	365.95
70	297.4582	257.8349	251.4668	252.9527	246.4432	242.41	204.2018	195.4281
75	113.7756	97.14799	101.6764	96.93571	95.87438	79.38823	79.03445	72.94944
80	11.25021	9.127524	5.023676	3.467044	2.47646	2.547216	2.547216	2.547216
85	0.70756	0.70756	0.70756	0.778316	0.778316	0.70756	0.70756	0.636804
90	0.424536	0.35378	0.35378	0.35378	0.35378	0.283024	0.283024	0.283024

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### 光強數據表 (三)

光強數據表(cd)

第 3 頁 共 10 頁

$\gamma/C(^{\circ})$	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0
0	1395.379	1387.242	1395.379	1392.124	1394.742	1391.983	1403.021	1390.709
5	1390.497	1390.214	1379.813	1381.865	1393.61	1393.044	1378.115	1391.983
10	1379.813	1376.912	1376.204	1383.209	1381.299	1376.841	1384.2	1374.365
15	1355.968	1364.388	1364.459	1365.661	1356.463	1354.907	1353.279	1354.765
20	1325.614	1339.128	1342.737	1330.567	1329.222	1327.807	1318.963	1320.378
25	1287.971	1286.273	1278.49	1283.443	1285.212	1290.165	1282.028	1281.25
30	1230.659	1224.008	1218.772	1223.937	1228.324	1234.268	1234.975	1236.107
35	1142.214	1142.426	1142.143	1149.077	1147.45	1153.464	1156.436	1161.318
40	1045.208	1047.047	1048.533	1046.057	1047.26	1051.01	1062.118	1067.142
45	938.3661	932.9886	932.8471	933.6962	934.0499	942.6115	947.9889	961.7156
50	816.2412	805.8401	807.5382	816.8073	822.397	827.0669	830.6755	838.4586
55	705.8619	699.9891	695.9561	698.4325	705.8619	711.027	713.4327	714.7064
60	576.9444	577.4397	579.9161	578.7841	583.3832	584.7275	587.2748	587.6286
65	364.3227	363.2613	364.7472	366.0916	366.2331	368.1434	368.7803	374.2992
70	195.8526	197.5507	199.5319	198.6829	198.8951	196.9139	198.3998	236.6081
75	76.98253	76.27497	76.55799	77.47782	76.98253	72.73717	78.11462	80.52032
80	2.617972	2.547216	2.47646	2.547216	2.547216	2.47646	2.47646	2.47646
85	0.70756	0.70756	0.70756	0.636804	0.636804	0.636804	0.70756	0.70756
90	0.283024	0.212268	0.212268	0.283024	0.212268	0.283024	0.283024	0.283024

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### 光強數據表 (四)

光強數據表(cd)

第 4 頁 共 10 頁

$\gamma/C(^{\circ})$	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0
0	1395.804	1385.473	1378.751	1383.846	1386.676	1391.629	1393.469	1395.521
5	1389.789	1389.153	1389.577	1381.157	1390.851	1391.558	1393.398	1391.771
10	1376.487	1376.912	1381.723	1388.162	1376.417	1367.006	1373.162	1370.968
15	1347.548	1346.628	1346.133	1341.463	1341.109	1343.303	1340.189	1341.817
20	1321.439	1320.095	1304.953	1307.712	1310.472	1316.132	1316.698	1320.024
25	1280.33	1285.283	1288.255	1279.268	1285.707	1283.372	1284.504	1288.962
30	1240.99	1243.678	1246.508	1251.037	1246.296	1236.32	1230.942	1227.97
35	1170.658	1187.356	1188.205	1191.177	1193.3	1182.191	1168.111	1160.894
40	1079.666	1097.638	1105.492	1096.647	1091.624	1101.246	1082.072	1067.849
45	972.6827	979.7583	989.7349	986.4094	985.065	997.8011	976.5743	964.0505
50	845.1804	848.7182	853.0344	854.3787	865.5581	866.3365	862.3034	854.7324
55	714.0695	714.2819	712.8668	716.7583	723.1971	729.0698	735.5794	737.4897
60	589.6805	585.5059	585.1522	586.5673	588.0531	593.5721	598.1005	604.2562
65	413.9226	448.2393	456.8715	456.1639	455.5979	457.6498	460.9046	464.6547
70	245.5233	258.4717	259.7453	259.3207	301.1375	300.9253	272.6936	273.6135
75	81.86469	95.94514	97.43102	97.71404	113.3511	107.4784	110.5916	129.8373
80	2.405704	2.47646	6.580308	9.339792	11.03794	13.16062	9.835084	9.622816
85	0.70756	0.778316	0.70756	0.70756	0.70756	0.778316	0.778316	0.778316
90	0.283024	0.283024	0.35378	0.35378	0.35378	0.35378	0.35378	0.35378

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### 光強數據表 (五)

光強數據表(cd)

第 5 頁 共 10 頁

$\gamma/C(^{\circ})$	160.0	165.0	170.0	175.0	180.0	185.0	190.0	195.0
0	1394.247	1392.903	1394.105	1398.139	1398.492	1399.907	1398.422	1387.596
5	1383.634	1384.27	1386.959	1391.275	1392.478	1391.346	1386.322	1383.563
10	1367.501	1370.261	1371.888	1363.68	1362.407	1368.916	1369.907	1373.94
15	1347.053	1347.619	1340.755	1332.76	1342.1	1333.68	1340.614	1346.557
20	1320.448	1320.802	1315.991	1319.741	1319.882	1318.326	1320.802	1315.354
25	1282.17	1273.75	1275.66	1281.957	1282.523	1285	1275.872	1274.245
30	1228.253	1217.64	1207.593	1208.3	1212.404	1204.621	1208.866	1215.8
35	1149.502	1139.738	1126.86	1121.412	1122.049	1120.421	1121.766	1133.157
40	1054.264	1043.297	1024.971	1018.603	1016.268	1020.089	1025.254	1034.311
45	947.5644	932.7056	925.0639	923.6488	925.5592	921.4554	923.2951	926.5498
50	840.5812	825.2273	822.0432	823.3168	821.2649	819.1422	814.26	820.7696
55	729.5651	715.697	704.8005	700.8381	699.4938	701.4042	705.6496	711.5931
60	601.6383	596.4023	587.1333	580.4114	573.2651	572.4868	580.836	586.8503
65	464.6547	461.4706	454.0413	443.4986	437.7674	439.8193	444.7722	452.1308
70	275.5946	274.3918	271.6323	267.3869	259.25	259.6745	257.1273	268.9436
75	122.5494	105.4264	103.8698	104.0113	103.3745	102.8085	102.3839	102.8085
80	9.19828	2.971752	2.688728	2.688728	2.617972	2.547216	2.547216	2.547216
85	0.849072	0.70756	0.778316	0.778316	0.778316	0.849072	0.849072	0.849072
90	0.35378	0.283024	0.35378	0.35378	0.424536	0.35378	0.35378	0.283024

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### 光強數據表 (六)

光強數據表(cd)

第 6 頁 共 10 頁

$\gamma/C(^{\circ})$	200.0	205.0	210.0	215.0	220.0	225.0	230.0	235.0
0	1396.723	1400.686	1400.756	1389.011	1379.105	1383.28	1388.94	1389.719
5	1398.917	1389.294	1385.402	1387.525	1393.327	1396.016	1392.903	1390.709
10	1363.893	1369.765	1370.756	1369.553	1378.398	1377.407	1372.242	1371.181
15	1340.543	1339.27	1342.524	1341.534	1329.364	1335.52	1341.958	1338.279
20	1313.09	1314.222	1317.052	1313.302	1307.5	1303.326	1308.349	1313.373
25	1281.533	1284.717	1277.5	1274.103	1271.698	1276.509	1264.41	1262.499
30	1222.876	1217.852	1220.612	1220.753	1223.442	1223.583	1218.065	1210.423
35	1140.87	1144.903	1148.37	1156.507	1154.313	1157.144	1158.063	1155.516
40	1047.26	1051.717	1064.736	1072.944	1072.873	1073.581	1075.137	1069.406
45	935.182	952.4465	963.2722	960.0881	962.9185	968.5789	973.6026	963.2722
50	830.1094	843.7653	848.7182	851.124	847.1616	844.4021	838.6708	830.8877
55	719.73	723.4801	720.4376	719.447	715.4139	706.6402	701.3334	695.9561
60	593.9258	594.5627	592.5815	584.8691	577.7935	569.798	567.1801	567.4631
65	457.6498	455.6686	450.2912	447.6024	443.6401	441.8005	440.1023	437.4136
70	268.9436	267.67	265.9718	281.9626	294.1327	251.0423	248.0705	246.3724
75	113.4926	116.6059	112.0067	106.417	108.6105	96.93571	96.08665	104.4359
80	5.377456	4.95292	10.96718	13.30213	13.16062	9.339792	5.872748	2.47646
85	0.849072	0.849072	0.849072	0.778316	0.778316	0.778316	0.778316	0.70756
90	0.35378	0.424536	0.424536	0.35378	0.424536	0.35378	0.35378	0.283024

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### 光強數據表 (七)

光強數據表(cd)

第 7 頁 共 10 頁

$\gamma/C(^{\circ})$	240.0	245.0	250.0	255.0	260.0	265.0	270.0	275.0
0	1395.945	1389.719	1396.723	1400.261	1391.558	1386.959	1384.624	1390.355
5	1388.233	1391.558	1390.285	1394.459	1392.549	1386.039	1383.563	1387.242
10	1374.365	1371.322	1372.03	1369.412	1375.355	1378.539	1382.997	1380.308
15	1341.604	1346.133	1346.77	1342.454	1350.803	1356.817	1354.482	1350.803
20	1306.085	1301.203	1309.623	1307.854	1310.826	1308.278	1310.967	1303.962
25	1262.499	1257.9	1260.235	1264.268	1264.339	1257.263	1253.584	1253.584
30	1214.244	1207.663	1204.833	1204.904	1200.588	1201.083	1197.899	1194.291
35	1145.681	1136.624	1132.308	1124.667	1121.978	1125.091	1131.247	1125.657
40	1060.632	1050.727	1037.637	1031.481	1029.712	1029.429	1020.372	1025.537
45	947.6351	932.2103	930.3707	920.8185	916.1487	906.3136	905.7476	909.7098
50	824.5197	817.2318	809.5901	805.1325	796.7126	785.6746	790.486	790.486
55	699.0693	691.6399	689.7295	686.2625	683.6445	679.7529	678.3378	679.3991
60	566.3311	567.8169	563.9253	558.9724	555.6469	556.4252	555.7884	553.878
65	421.7765	357.7423	353.497	350.9498	348.4733	347.412	346.9167	346.2799
70	245.7356	239.0138	196.8432	190.1214	189.343	188.8478	188.9185	187.4326
75	77.97311	76.55799	73.30322	72.38339	72.66641	72.17112	71.95885	70.96827
80	2.405704	2.547216	2.547216	2.617972	2.688728	2.617972	2.617972	2.617972
85	0.778316	0.778316	0.778316	0.778316	0.778316	0.778316	0.70756	0.778316
90	0.283024	0.283024	0.283024	0.35378	0.283024	0.212268	0.283024	0.283024

-以下空白-

### 光強數據表 (八)

光強數據表(cd)

第 8 頁 共 10 頁

$\gamma/C(^{\circ})$	280.0	285.0	290.0	295.0	300.0	305.0	310.0	315.0
0	1394.53	1401.11	1402.101	1389.931	1395.167	1390.78	1377.195	1383.138
5	1392.124	1389.86	1388.233	1386.535	1387.313	1389.294	1384.836	1381.865
10	1372.949	1366.864	1364.883	1372.737	1373.232	1370.756	1377.69	1383.563
15	1342.454	1334.883	1345.355	1343.09	1338.279	1339.906	1335.59	1331.557
20	1306.722	1303.609	1307.288	1297.382	1305.024	1300.849	1292.924	1289.174
25	1258.466	1261.792	1257.9	1250.683	1251.957	1254.292	1257.759	1249.834
30	1200.659	1201.578	1203.135	1204.055	1202.923	1204.904	1205.753	1211.626
35	1120.775	1125.799	1127.072	1128.7	1138.959	1142.709	1144.62	1146.106
40	1025.82	1029.783	1036.575	1036.151	1050.727	1062.472	1065.656	1060.703
45	915.4411	921.5261	923.5073	931.7858	946.8568	953.1541	958.4608	958.107
50	798.6937	803.4343	804.5665	812.4204	825.298	825.4395	831.1707	830.817
55	680.3189	684.4935	686.1209	689.871	689.3049	690.154	691.7814	695.673
60	556.7789	555.2931	557.6281	561.5197	560.3875	558.8309	561.3781	562.5809
65	346.7044	347.8365	348.4733	359.299	418.9463	426.588	428.7814	427.5078
70	186.159	184.9562	200.3102	236.4666	234.5561	236.4666	237.1033	258.1179
75	70.04844	69.27013	70.18996	69.76542	78.46841	95.37909	87.73744	90.28465
80	2.688728	2.617972	2.617972	2.547216	2.547216	2.688728	7.78316	8.419964
85	0.778316	0.778316	0.778316	0.849072	0.849072	0.849072	0.849072	0.849072
90	0.283024	0.283024	0.283024	0.35378	0.424536	0.424536	0.424536	0.424536

-以下空白-

### 光強數據表 (九)

光強數據表(cd)

第 9 頁 共 10 頁

$\gamma/C(^{\circ})$	320.0	325.0	330.0	335.0	340.0	345.0	350.0	355.0
0	1389.011	1392.407	1394.389	1393.964	1398.351	1397.219	1391.558	1393.327
5	1388.516	1386.818	1390.143	1391.063	1381.44	1377.407	1385.898	1393.327
10	1378.256	1362.831	1367.855	1368.35	1365.52	1368.067	1363.751	1369.978
15	1333.68	1336.439	1331.699	1333.326	1339.057	1338.703	1333.68	1327.595
20	1295.047	1295.047	1293.207	1297.453	1304.033	1300.991	1298.585	1296.533
25	1260.164	1258.254	1255.99	1258.82	1252.24	1250.4	1251.815	1254.504
30	1206.39	1199.102	1202.286	1201.225	1199.385	1188.771	1193.441	1196.625
35	1146.176	1141.436	1132.874	1132.238	1121.553	1117.803	1113.558	1109.666
40	1057.944	1058.58	1046.481	1040.396	1033.462	1021.504	1015.066	1012.943
45	953.0833	960.725	943.9558	930.7952	927.2574	923.2243	914.4506	915.1581
50	835.4161	838.5293	830.9584	824.2366	815.3922	812.2789	811.642	812.0666
55	698.2202	704.4467	708.1968	708.6921	701.6873	693.4088	691.4984	691.9229
60	563.9253	570.4349	574.9633	576.1661	573.8312	568.7367	566.5433	565.2697
65	427.2247	430.9041	434.5126	436.2815	435.9984	432.1069	430.621	428.2153
70	282.8825	276.0192	259.533	251.3961	255.1461	255.0046	252.9527	251.1838
75	97.36026	94.17624	109.2473	111.7945	107.9737	107.1953	102.1717	97.50176
80	11.95776	11.60398	11.7455	10.89642	7.641648	9.056767	9.481303	10.47189
85	0.849072	0.919828	0.849072	0.919828	0.919828	0.919828	0.849072	0.849072
90	0.424536	0.424536	0.424536	0.495292	0.424536	0.424536	0.424536	0.35378

-以下空白-

## 光強數據表 (十)

### 光強數據表(cd)

$\gamma/C(^{\circ})$	360.0
0	1394.813
5	1394.53
10	1377.266
15	1312.382
20	1292.924
25	1261.297
30	1191.46
35	1108.039
40	1012.306
45	917.3515
50	821.4772
55	691.3569
60	561.8027
65	430.5503
70	249.0611
75	96.08665
80	12.66532
85	0.919828
90	0.35378

第 10 頁 共 10 頁

-以下空白-

### 測試設備列表及人員

項次	儀器編號	量儀名稱	廠牌 / 型號 / 序號
1	99A-01	角度規	Johnson
2	99E-06	數位電力計	YOKOGAWA WT210 (91JB34563)
3	99E-08	數位電力計	YOKOGAWA WT210 (91K539455)
4	99E-12	AC Power Source	APC AFC-500W
5	99E-17	AC Power Source	APC AFC-5KW
6	990-01	立式大型分佈光度計	浙大三色 GMS-2000
7	990-02	快速光譜輻射分析儀(2 $\pi$ )	浙大三色 SPR-3000
8	990-23	積分球(2 $\pi$ )	浙大三色
9	1040-30	測光標準燈 110V/100W	浙大三色(S13100250)
10	103T-13	數字型溫濕度計	TANDD(TR-72UI/F80417A2)
11	103T-14	數字型溫濕度計	TANDD(TR-72UI/F8043A00)
			測試人員：陳建元

-以下空白-