

## 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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1. 報告發行日期：105 年 09 月 19 日
2. 報告編號：16090903
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報告簽署人：

## 試驗報告

### 測試樣品基本資料表

委測公司：昶旭能源股份有限公司

委測公司地址：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

廠牌或商標：CooLED

產品名稱：30W 崁燈

燈具型號：D3035N-081

額定輸入電壓 (V)：100~240

額定輸入頻率 (Hz)：50/60

額定輸入功率 (W)：30

外觀尺寸：直徑 235 mm、高 57 mm

-以下空白-

## 試驗內容

### 試驗條件

環境溫度 (°C)	25.1
環境濕度 (% RH)	55.3
$\gamma$ 軸取樣步距 (°)	5
C 軸取樣步距 (°)	5

### 電氣量測

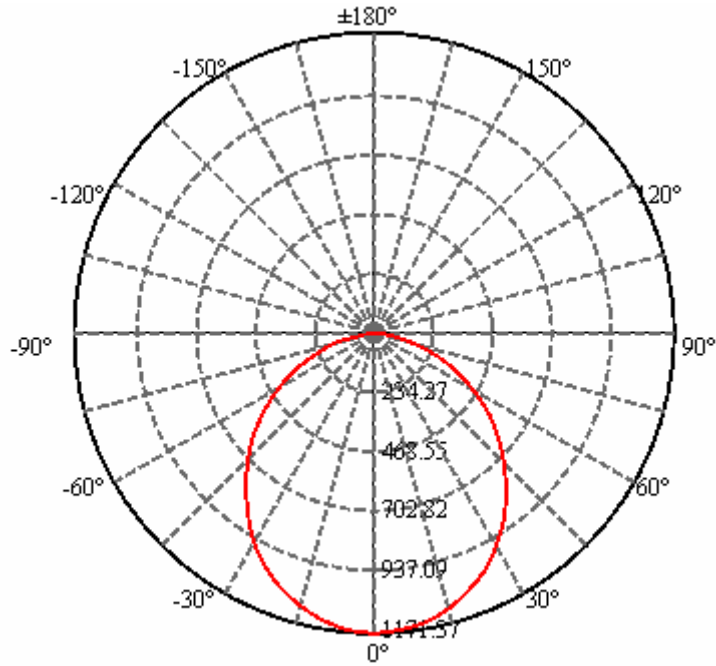
試驗項目	試驗結果
電壓 (V)	220.0
頻率 (Hz)	60
電流 (A)	0.153
功率 (W)	30.9
功率因數	0.918

### 配光量測

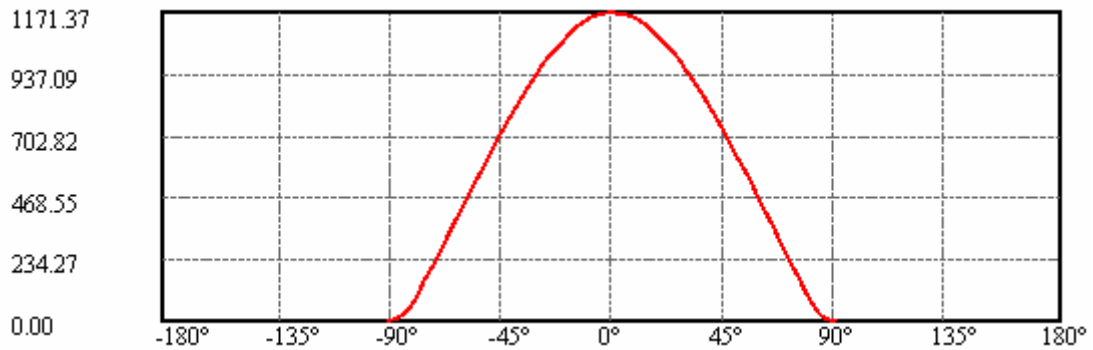
試驗項目	試驗結果
燈具全光通量 (lm)	2997.3
燈具發光效率 (lm/W)	97.0
中心光強度 (cd)	1170.9
最大光強度 (cd)	1171.4
最大光強度角度 (°)	C : 255.0 $\gamma$ : 0.0
半峰邊角 (50%Imax)	C0_180    Left=51.4    Right=52.7
	C90_270   Left=51.8    Right=52.3

### 配光曲線圖(一)

極座標圖 C0 / 180

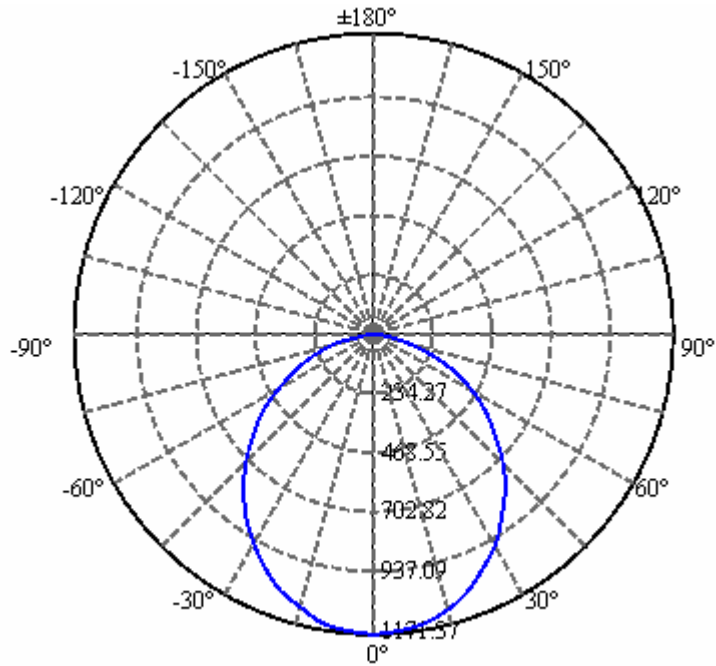


直角座標圖 C0 / 180

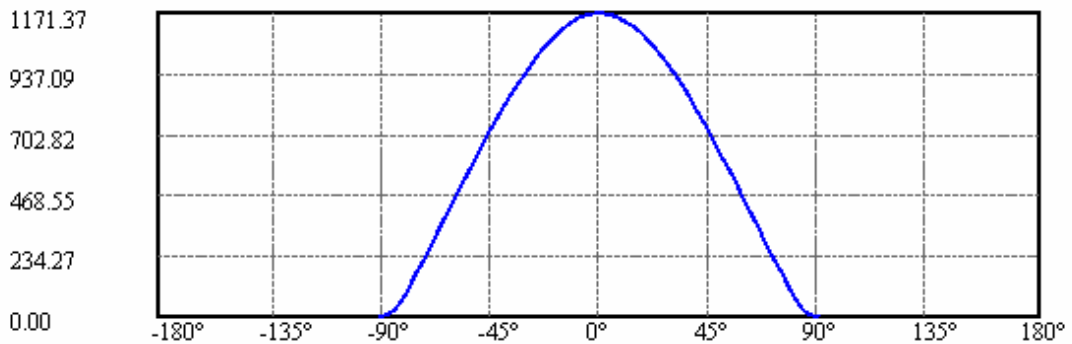


**配光曲線圖(二)**

極座標圖 C90 / 270

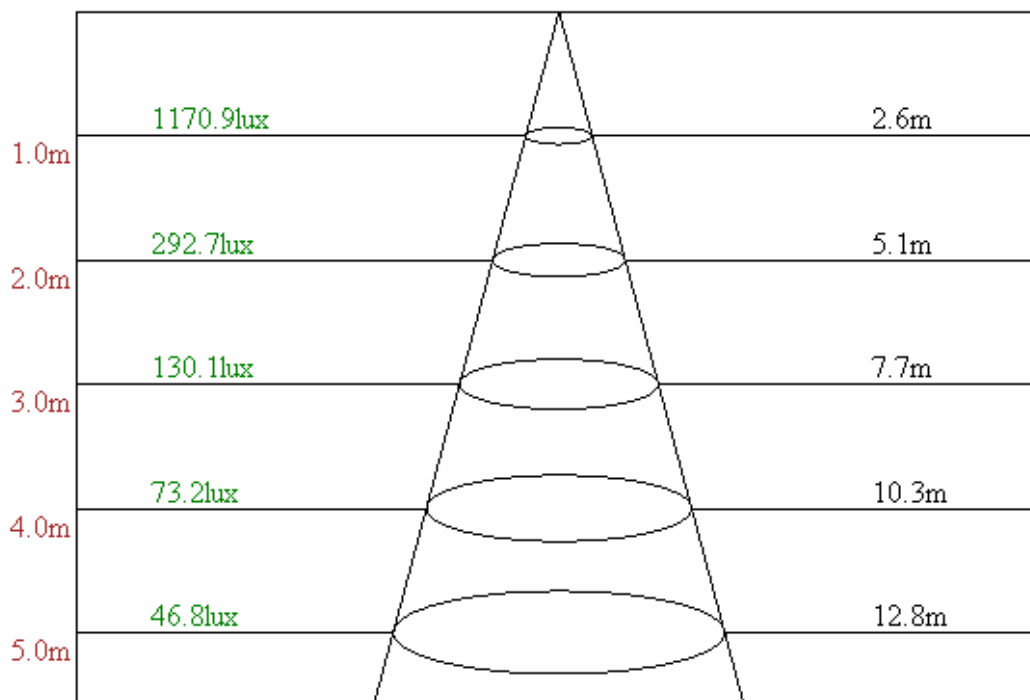


直角座標圖 C90 / 270



### 照度距離表

照度距離圖表



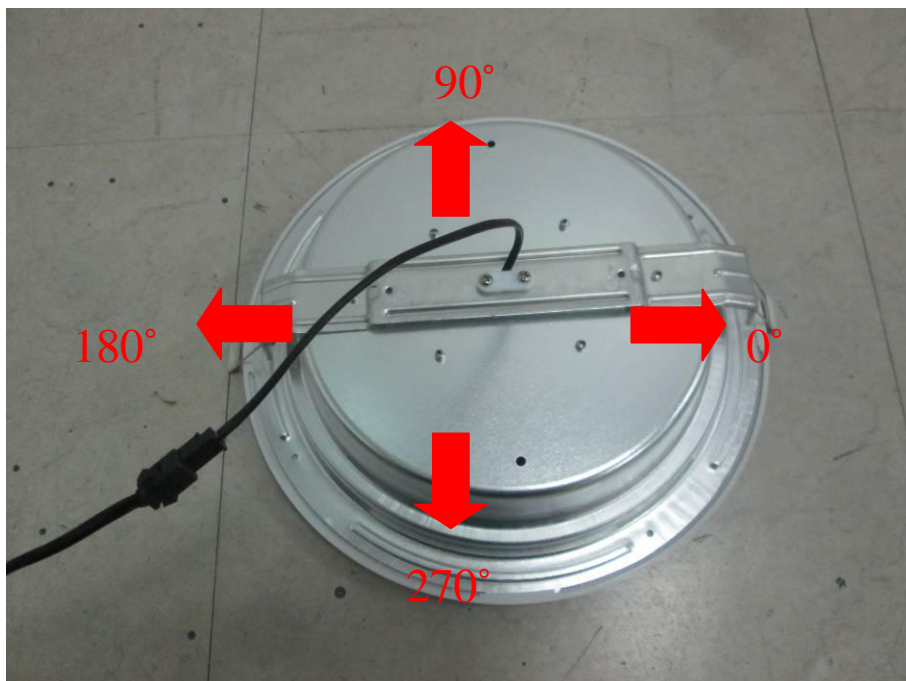
C255面光束角104.10

### 測試樣品照片

測試樣品外觀



測試樣品架設方向



### 測試樣品照片

測試樣品搭配驅動器



-以下空白-



### 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	1170.87	1170.87	1169.667	1169.667	1170.587	1170.587	1169.597	1170.87
5	1164.573	1164.644	1164.148	1164.998	1165.21	1165.068	1164.361	1165.21
10	1146.176	1146.318	1146.459	1145.964	1147.238	1146.53	1146.389	1146.813
15	1114.124	1115.044	1115.256	1115.115	1114.69	1115.327	1115.468	1115.398
20	1071.883	1072.166	1071.812	1072.449	1072.59	1072.59	1071.741	1072.519
25	1018.462	1018.674	1018.32	1019.099	1019.382	1018.745	1018.957	1019.523
30	955.1353	955.489	955.9135	956.7626	955.9135	956.4796	956.9749	956.6919
35	883.6717	884.0963	883.8132	885.0868	885.5821	885.3698	884.5916	885.299
40	804.708	804.8495	804.9202	806.1231	806.1938	806.1231	806.1231	806.5476
45	722.2065	722.4896	722.5602	722.5602	723.1971	722.5602	722.348	722.631
50	633.6907	633.7615	633.903	634.6105	635.4597	635.2474	634.8228	634.8228
55	542.9108	543.4061	543.6183	544.6089	544.8212	544.3967	543.4061	543.123
60	449.5836	450.3619	450.7865	451.1403	451.0695	451.2817	451.5648	451.494
65	356.0442	356.681	357.3885	357.8131	357.7423	358.2376	358.2376	357.8131
70	262.5048	263.0708	263.5661	263.5661	263.8491	264.2737	264.3444	263.9906
75	170.0267	170.3097	170.805	170.9465	171.5125	171.6541	171.7248	171.5125
80	82.92603	83.35056	83.63359	83.7751	84.05813	84.05813	84.12888	83.84586
85	16.91068	17.19371	17.33522	17.47673	17.47673	17.54749	17.54749	17.47673
90	0.778316	0.919828	0.849072	0.849072	0.849072	0.919828	0.778316	0.70756

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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	1170.587	1169.314	1169.526	1170.658	1169.597	1169.667	1169.95	1170.516
5	1164.856	1164.148	1164.219	1165.351	1164.29	1164.007	1165.21	1164.785
10	1147.167	1146.247	1146.955	1147.309	1146.318	1145.823	1146.53	1144.974
15	1114.69	1115.468	1114.761	1114.053	1113.699	1114.195	1112.992	1113.417
20	1072.024	1071.741	1071.246	1072.095	1070.892	1069.619	1069.335	1069.831
25	1018.816	1018.179	1018.674	1018.179	1017.047	1016.127	1016.268	1014.924
30	955.9135	956.3381	956.2673	954.9229	953.9324	953.6494	952.8004	951.4559
35	885.6529	885.1576	884.3792	884.45	883.8132	882.6104	881.549	881.0537
40	805.8401	805.274	804.9202	804.8495	803.3636	802.6561	802.373	801.4532
45	722.8433	722.0649	721.7112	721.4282	720.5084	719.0932	718.5272	717.6073
50	634.7521	633.8322	633.5492	633.62	632.5587	631.6388	631.002	629.6577
55	543.6183	542.6277	542.274	542.1324	541.2126	540.4343	540.1513	539.5145
60	450.928	451.1403	450.8572	450.3619	449.3006	448.8053	447.8147	446.6826
65	357.7423	357.4593	356.8225	356.0442	355.5489	355.1244	354.2045	353.2139
70	264.0614	263.7784	263.4246	262.6463	262.2925	261.3727	260.8774	259.6745
75	171.371	170.9465	170.5927	169.9559	169.3899	168.6115	167.621	167.1257
80	83.7751	83.27982	82.92603	82.43074	81.93545	81.15713	80.44957	79.60049
85	17.33522	17.0522	16.83993	16.69842	16.41539	16.20313	15.84934	15.42481
90	0.636804	0.70756	0.636804	0.566048	0.566048	0.495292	0.495292	0.566048

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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	1169.314	1169.738	1169.738	1170.234	1169.101	1169.738	1170.446	1170.234
5	1163.37	1163.865	1163.936	1163.936	1162.521	1162.946	1163.229	1162.097
10	1144.62	1144.832	1145.186	1143.488	1143.7	1143.488	1143.063	1142.002
15	1112.638	1112.143	1111.577	1111.647	1110.232	1109.879	1109.525	1109.313
20	1068.699	1068.628	1068.557	1067.92	1066.293	1066.222	1065.939	1064.099
25	1013.58	1013.367	1012.448	1012.235	1012.165	1011.74	1009.759	1009.971
30	951.1022	950.5361	949.6163	947.9181	947.6351	946.5738	945.7954	944.7341
35	879.4971	878.365	877.5159	877.0913	874.8979	874.4026	874.3319	873.6243
40	800.4626	799.3305	798.8352	797.9154	796.0757	795.5805	794.5191	792.8917
45	716.6875	715.4846	714.9893	713.4327	711.8054	710.8148	710.2488	708.8336
50	628.4548	627.8887	627.3934	625.6245	624.4924	624.0679	623.3604	621.5914
55	538.2409	537.321	536.8965	535.2692	534.2786	532.9342	531.6606	530.1039
60	445.9751	445.3383	443.9231	442.508	441.6589	440.8099	439.324	438.2627
65	352.5771	351.7281	350.6667	349.6054	348.8978	347.1997	346.2799	345.2893
70	258.8962	257.9056	256.7028	255.7829	255.0754	253.6603	252.8819	252.1036
75	166.2766	165.286	164.2247	163.4464	162.7388	161.6775	160.7576	159.9793
80	78.89294	77.97311	77.12404	76.27497	75.21362	74.36456	73.30322	72.02961
85	15.2833	14.92952	14.57574	14.22196	13.86818	13.65591	13.44364	13.23137
90	0.495292	0.495292	0.495292	0.495292	0.424536	0.424536	0.566048	0.495292

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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	1169.667	1170.234	1170.658	1170.516	1170.021	1170.729	1170.658	1170.163
5	1162.097	1162.875	1162.733	1161.743	1162.097	1162.167	1161.177	1160.611
10	1142.709	1142.709	1141.648	1141.153	1141.294	1139.738	1139.525	1140.162
15	1108.11	1108.393	1107.897	1107.473	1106.482	1106.199	1105.775	1105.138
20	1063.463	1064.099	1062.897	1061.765	1061.482	1061.835	1060.137	1059.642
25	1008.414	1007.848	1007.141	1007.282	1005.655	1005.16	1004.735	1004.664
30	944.9464	943.885	942.7529	942.3284	942.0454	940.2765	940.0643	939.7812
35	871.7139	871.4309	871.0771	868.8129	868.1053	867.7516	865.1336	865.2044
40	791.6182	790.9813	789.637	788.5049	788.2218	787.5851	786.5945	785.8161
45	707.56	707.0647	706.1449	704.659	703.5977	703.1731	702.2533	700.5552
50	620.5301	619.681	617.6999	616.497	615.5772	614.8696	613.5253	612.6762
55	529.0426	528.2643	527.5567	526.1416	525.3633	524.4434	523.5944	522.3208
60	437.4844	435.9984	435.2202	434.4419	433.805	432.3899	431.8239	431.1163
65	344.511	342.8836	342.0345	341.3977	340.5486	339.275	338.709	338.2844
70	251.0423	249.6979	248.6366	247.646	246.9384	245.8771	245.0988	244.462
75	158.918	158.1397	157.2198	156.4415	155.4509	154.6726	154.1066	153.682
80	70.756	69.90693	69.19937	68.56256	67.71349	67.07669	66.72291	66.5814
85	12.94835	12.80684	12.52381	12.59457	12.24079	12.17003	12.02852	11.95776
90	0.566048	0.495292	0.566048	0.495292	0.566048	0.495292	0.495292	0.424536

-以下空白-

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	1170.234	1170.87	1170.658	1170.163	1171.224	1170.941	1170.163	1169.667
5	1161.106	1160.752	1160.115	1160.115	1161.035	1160.752	1160.328	1160.328
10	1139.242	1139.879	1139.242	1139.03	1139.808	1140.091	1138.959	1140.162
15	1103.935	1104.43	1103.794	1103.511	1103.723	1103.864	1102.803	1103.44
20	1059.854	1059.43	1057.802	1058.297	1058.085	1057.661	1057.024	1057.731
25	1003.249	1003.532	1003.249	1001.763	1001.48	1002.047	1000.773	1000.49
30	938.9321	938.0123	938.2245	937.3047	935.5358	934.333	934.4037	935.3235
35	865.2044	863.9307	863.0109	863.1525	862.0203	861.525	861.6666	862.1619
40	785.2501	784.401	783.6934	782.9859	783.3397	782.5613	782.4199	782.4907
45	700.3429	700.0599	698.7155	698.0787	698.0079	697.8664	696.8759	697.2296
50	612.3932	612.1102	611.1903	610.8365	610.978	610.3412	609.7752	610.3412
55	521.684	520.9764	520.3397	519.7028	520.1981	519.7028	518.9245	518.8537
60	430.4795	429.4889	429.1352	428.1445	427.6493	427.2955	427.2955	426.7294
65	337.4354	336.7986	336.4448	335.8787	335.4542	335.1712	335.1712	334.6759
70	243.6837	243.1176	242.9054	242.127	241.7025	241.7732	241.561	241.1364
75	152.833	152.4792	152.1254	151.4886	151.2056	151.0641	150.5688	150.7103
80	66.5814	66.5814	66.29837	66.15686	66.01535	65.66157	65.59081	65.59081
85	11.95776	11.88701	11.81625	11.7455	11.81625	11.88701	11.81625	11.81625
90	0.495292	0.495292	0.495292	0.424536	0.424536	0.424536	0.495292	0.495292

-以下空白-

### 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	1170.941	1170.092	1169.384	1169.667	1171.012	1169.88	1170.092	1170.234
5	1161.318	1160.54	1160.469	1161.531	1161.389	1160.328	1160.894	1162.026
10	1139.808	1138.889	1138.676	1139.596	1138.606	1138.959	1139.738	1138.464
15	1103.723	1103.581	1103.157	1104.784	1103.794	1104.36	1105.209	1105.563
20	1057.802	1057.59	1057.873	1058.58	1058.227	1058.368	1059.146	1059.642
25	1001.127	1001.41	1001.056	1000.136	1000.207	1001.551	1001.056	1001.48
30	935.1113	934.1915	934.616	935.6773	934.899	934.899	936.1726	936.5264
35	861.3835	861.7374	861.9496	862.5864	862.0203	863.2232	863.577	863.7185
40	783.1981	782.6321	782.7736	782.8444	783.7642	783.3397	784.0473	785.1085
45	697.2296	697.0881	696.5928	697.4419	697.5834	697.5834	697.7957	699.2108
50	609.9875	609.7752	609.4214	610.0582	610.129	610.5535	610.978	612.3224
55	519.5613	519.3491	519.066	519.7736	520.1273	519.8444	520.5519	521.0472
60	426.6587	427.0125	427.5078	427.2247	427.9323	428.3568	428.9229	429.0644
65	334.3929	334.4636	334.6051	334.6051	334.8174	335.2419	335.808	336.091
70	241.1364	241.2072	241.3487	241.6317	241.7025	242.2686	242.6223	242.9054
75	150.7103	150.781	151.0641	150.9933	151.2056	151.8424	152.1254	152.3377
80	65.4493	65.73232	65.87383	66.01535	66.51064	66.5814	66.86442	67.50122
85	11.88701	11.81625	11.81625	11.88701	11.95776	12.02852	11.95776	12.09928
90	0.495292	0.424536	0.495292	0.424536	0.424536	0.495292	0.495292	0.495292

-以下空白-

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	1171.012	1170.092	1171.012	1171.366	1171.153	1169.455	1170.163	1170.092
5	1161.884	1160.823	1161.531	1161.884	1160.54	1160.823	1162.238	1162.733
10	1139.455	1139.596	1138.747	1139.313	1140.728	1140.021	1140.728	1141.648
15	1104.643	1105.704	1105.704	1105.209	1105.138	1106.695	1107.119	1107.19
20	1058.085	1057.236	1058.085	1059.146	1059.571	1059.43	1060.562	1061.835
25	1002.966	1003.532	1003.249	1003.674	1005.372	1004.664	1005.584	1007.495
30	936.2434	937.3047	937.9415	937.9415	938.3661	940.2057	940.0643	940.6302
35	864.0723	865.4874	865.4874	866.6902	867.1147	867.5393	868.6006	869.8035
40	785.6038	785.6038	787.0898	787.7973	787.7265	788.2926	790.2029	790.9106
45	699.6353	700.2722	701.3334	702.4656	702.8901	703.9514	704.7297	706.0742
50	612.3932	612.8884	614.0913	614.6574	614.9404	616.0725	617.4876	617.9122
55	521.4717	521.684	522.7453	523.4529	524.0189	525.0095	526.4246	527.4152
60	429.8427	430.338	430.7625	431.1163	432.2484	433.0267	433.5928	434.7249
65	336.7278	337.6476	338.0014	338.4967	339.558	340.6194	341.2562	341.9637
70	243.4714	244.3205	244.6035	245.3111	246.0186	246.9384	247.7875	248.7781
75	153.116	153.6113	153.9651	154.6726	155.4509	156.0877	156.7245	157.6444
80	67.99652	68.56256	68.84559	69.6239	70.2607	70.68524	71.60507	71.88809
85	12.17003	12.31154	12.52381	12.59457	12.80684	12.87759	13.0191	13.16062
90	0.495292	0.424536	0.424536	0.495292	0.495292	0.495292	0.424536	0.495292

-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	1169.172	1168.465	1169.455	1168.96	1168.535	1168.465	1169.809	1169.384
5	1161.672	1163.087	1163.512	1162.875	1163.016	1163.865	1163.37	1163.299
10	1141.082	1142.356	1142.568	1142.143	1143.629	1143.205	1143.276	1144.549
15	1106.907	1108.676	1109.242	1108.534	1108.888	1110.303	1110.091	1110.798
20	1061.482	1062.048	1063.392	1064.453	1064.595	1065.939	1066.788	1067.567
25	1008.344	1008.061	1010.113	1010.679	1010.679	1011.811	1013.65	1013.297
30	942.1868	942.7529	943.319	945.2294	946.2907	947.2106	947.0691	949.1918
35	869.662	870.228	872.1384	872.4215	873.5535	874.6149	876.7375	876.8083
40	791.3351	792.9625	793.7408	794.0946	794.7314	796.5003	796.7126	797.2079
45	706.3572	707.6307	709.1874	709.8949	710.6025	712.0884	713.5035	713.9988
50	618.6197	619.9641	621.2377	621.733	622.6528	624.0679	625.0585	625.6245
55	528.2643	528.9011	530.0332	530.8823	531.8729	533.3587	534.0663	534.6323
60	435.7862	436.423	437.4136	438.6164	439.3947	439.89	441.0929	442.4373
65	342.6713	343.6619	344.2987	345.1478	346.2091	346.9167	347.695	349.1101
70	249.7687	250.4055	251.2546	252.2451	252.8112	253.6603	254.2971	255.6414
75	158.2812	158.9887	159.5548	160.5454	161.1822	161.819	162.8096	163.4464
80	72.5249	72.87868	73.23246	73.44473	73.51549	74.01077	74.85985	75.56741
85	13.23137	13.37288	13.65591	13.86818	14.00969	14.08044	14.29271	14.50498
90	0.424536	0.566048	0.566048	0.495292	0.566048	0.495292	0.495292	0.495292

-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	1169.384	1170.446	1170.658	1169.809	1170.304	1171.153	1170.587	1170.729
5	1163.441	1164.361	1163.441	1163.653	1164.502	1164.573	1163.865	1164.573
10	1144.974	1144.266	1145.469	1146.247	1145.964	1145.54	1146.672	1145.54
15	1112.567	1113.204	1112.284	1113.558	1113.558	1113.204	1113.841	1114.619
20	1068.345	1069.335	1068.982	1069.265	1070.609	1071.175	1070.75	1071.6
25	1014.146	1015.207	1015.066	1016.268	1016.835	1017.188	1016.905	1017.896
30	950.1824	950.3238	950.8191	952.4465	952.3757	953.0833	954.2862	955.5598
35	877.5867	879.2848	879.7093	879.8508	881.1952	882.5396	882.1858	882.7518
40	798.9767	800.1796	800.2504	800.8165	802.373	803.2221	802.7976	804.142
45	714.9186	716.1922	717.2536	717.8196	718.5979	719.73	720.3668	720.7206
50	626.8981	627.6057	628.8086	629.6577	630.9313	631.8511	632.3464	632.6294
55	535.6937	537.3918	538.0286	538.5947	539.7975	541.0711	541.3541	542.274
60	443.1448	443.7109	444.9845	445.9043	446.3289	447.1779	448.2393	449.0883
65	350.0299	350.7375	352.0111	352.9309	353.497	354.4168	355.1244	355.6197
70	256.2075	257.1273	258.2594	258.9669	259.6745	260.5236	261.5142	262.151
75	164.1539	165.286	166.0643	166.5596	167.1964	167.9747	168.7531	169.1776
80	75.99194	76.77026	77.61933	78.53916	79.81277	80.7326	81.58167	82.21848
85	14.71725	15.00027	15.2833	15.49556	15.99086	16.20313	16.41539	16.62766
90	0.495292	0.566048	0.566048	0.495292	0.636804	0.70756	0.70756	0.70756

-以下空白-

## 光強數據表(十)

### 光強數據表(cd)

第 10 頁 共 10 頁

$\gamma/C^\circ$	<b>360.0</b>
<b>0</b>	<b>1170.87</b>
<b>5</b>	<b>1164.573</b>
<b>10</b>	<b>1146.176</b>
<b>15</b>	<b>1114.124</b>
<b>20</b>	<b>1071.883</b>
<b>25</b>	<b>1018.462</b>
<b>30</b>	<b>955.1353</b>
<b>35</b>	<b>883.6717</b>
<b>40</b>	<b>804.708</b>
<b>45</b>	<b>722.2065</b>
<b>50</b>	<b>633.6907</b>
<b>55</b>	<b>542.9108</b>
<b>60</b>	<b>449.5836</b>
<b>65</b>	<b>356.0442</b>
<b>70</b>	<b>262.5048</b>
<b>75</b>	<b>170.0267</b>
<b>80</b>	<b>82.92603</b>
<b>85</b>	<b>16.91068</b>
<b>90</b>	<b>0.778316</b>

-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-05	數位電力計	YOKOGAWA WT210 (91K116100)
3	99E-08	數位電力計	YOKOGAWA WT210 (91K539455)
4	99E-17	AC Power Source	APC AFC-5KW
5	990-01	立式大型分佈光度計	浙大三色 GMS-2000
6	990-02	快速光譜輻射分析儀	浙大三色 SPR-3000
7	990-04	恆溫積分球	浙大三色
8	1040-31	測光標準燈 110V/100W	浙大三色(S13100197)
9	99T-06	溫濕度記錄器	YOKOGAWA - SR16000 (S5K910111)
10	99T-07	溫濕度記錄器	YOKOGAWA - SR16000 (S5K910112)
			測試人員：劉峻廷

- 以下空白 -