

燈具配光曲線試驗報告

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

收件日期： 109 年 01 月 15 日

測試日期： 109 年 01 月 15 日 至 109 年 01 月 30 日

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2. 報告編號：20010301
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報告簽署人：





試驗報告

測試樣品基本資料表

委試公司：昶旭能源股份有限公司

委試公司地址：新竹市東區埔頂里公道五路二段83號5樓之3

製造廠商：昶旭能源股份有限公司

製造廠商地址：新竹市東區埔頂里公道五路二段83號5樓之3

產品商標：CooLED

產品名稱：15000LM LED 戶外投射燈

產品型號：F2140C-001

額定電壓 (V)：100~277

額定頻率 (Hz)：50/60

額定功率 (W)：120

外觀尺寸 (mm)：長 402、寬 325、高 60

搭配安定器廠牌/型號：明緯/XLG-150-36A

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試驗內容

試驗條件

環境溫度 (°C)	25.1
環境濕度 (% RH)	57.8
γ 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)	0.565
功率 (W)	120.9
功率因數	0.973

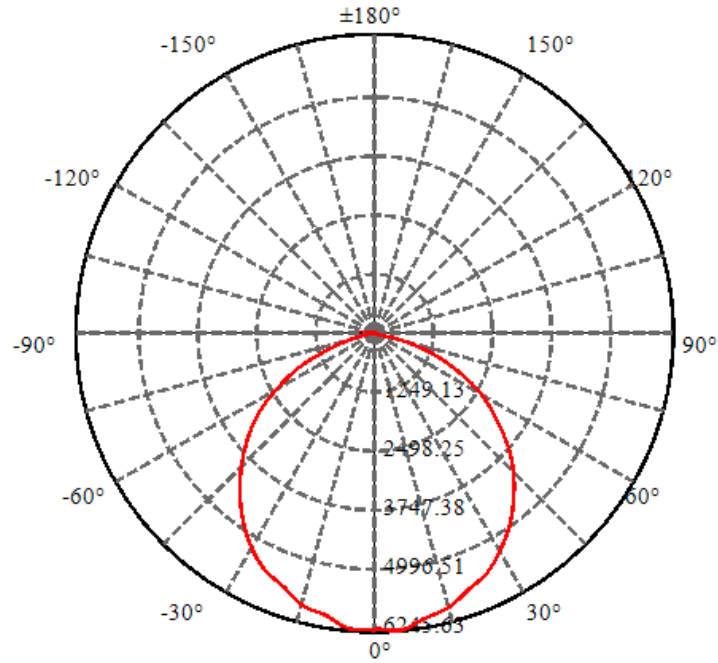
配光量測

試驗項目	試驗結果
燈具光通量 (lm)	15913.1
燈具發光效率 (lm/W)	131.6
中心光強度 (cd)	6184.1
最大光強度 (cd)	6245.6
最大光強度角度 (°)	C : 330.0 γ : 0.0
半峰邊角(50%Imax)	C0_180 Left=53.5 Right=55.0
	C90_270 Left=54.3 Right=53.7
色溫 (K)	5846
色座標	x : 0.3248 y : 0.3397
演色性(Ra)	81.6
R9	4
統一眩光指數 (UGR, Unified Glare Rating)	橫向觀察方向
	30.7
	縱向觀察方向
	30.3

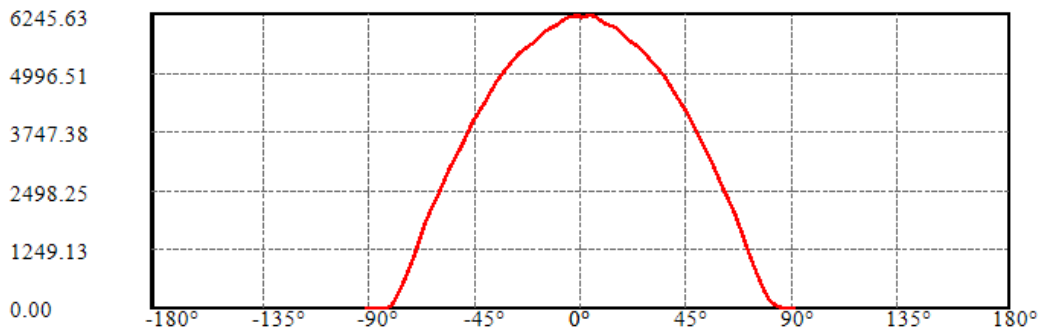
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配光曲線圖(一)

極座標圖 C0 / 180

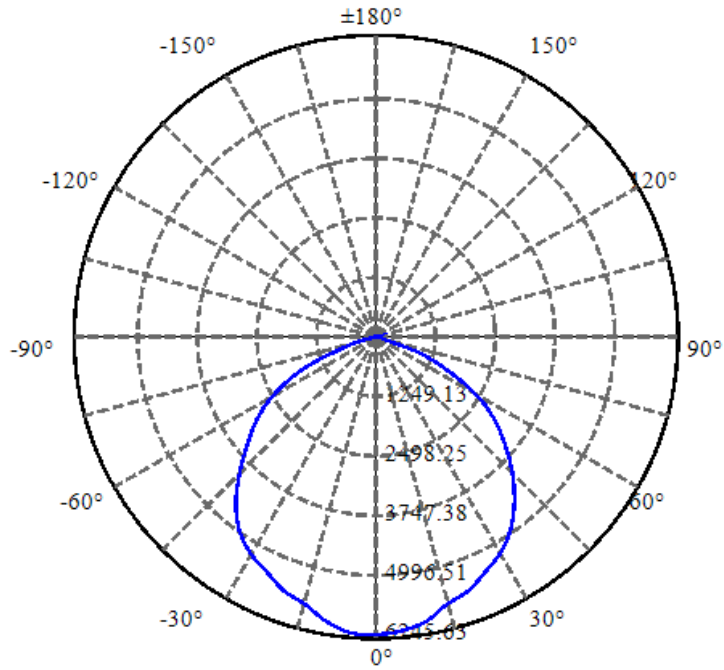


直角座標圖 C0 / 180

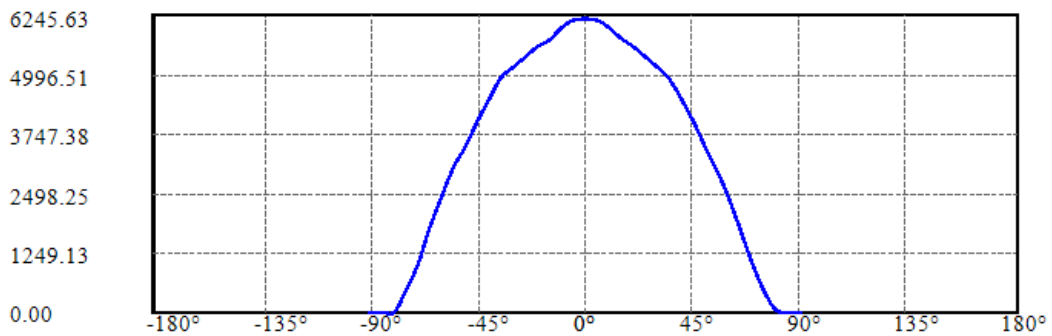


配光曲線圖(二)

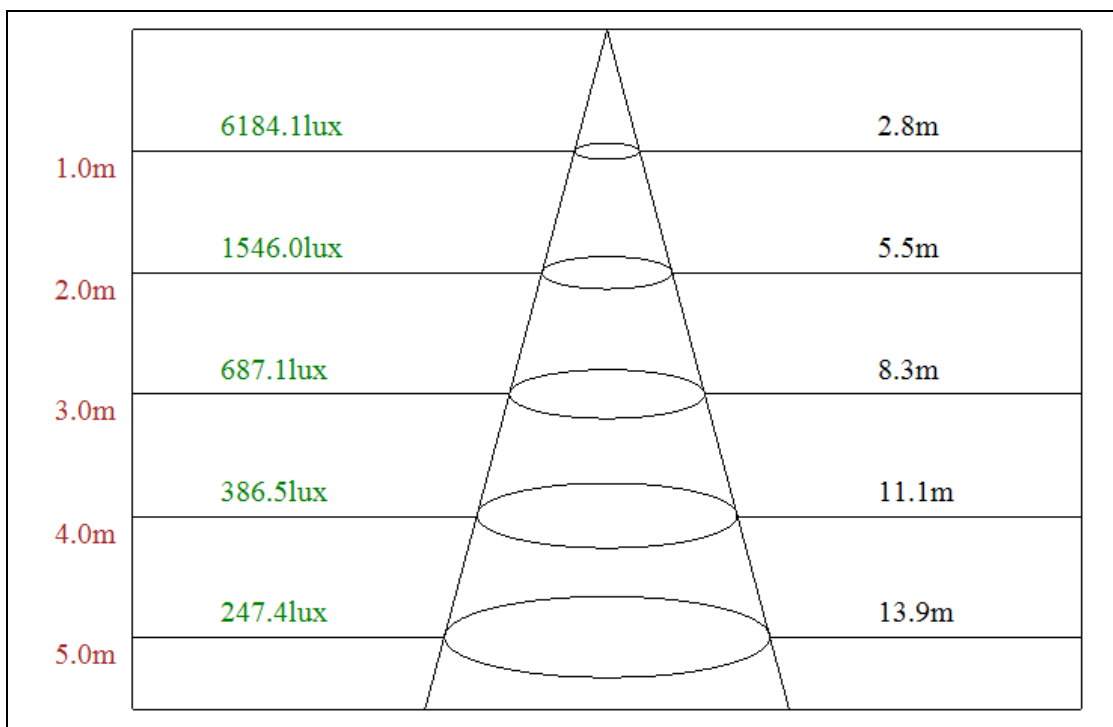
極座標圖 C90 / 270



直角座標圖 C90 / 270

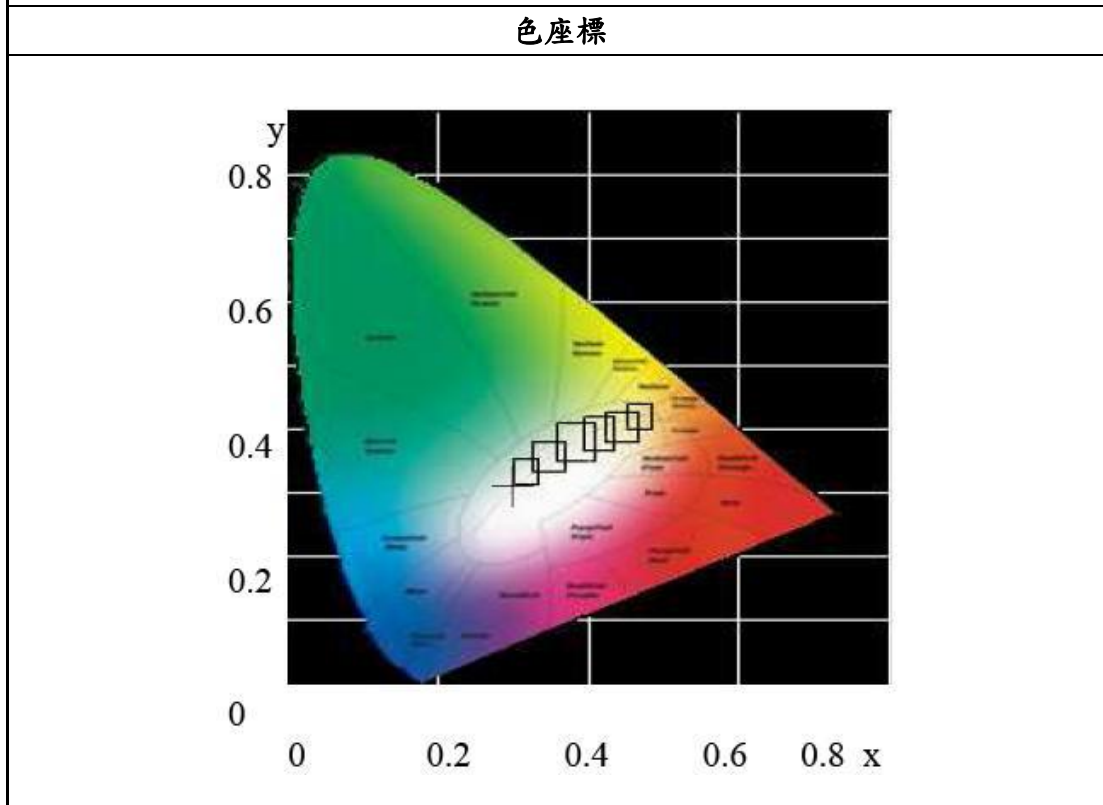
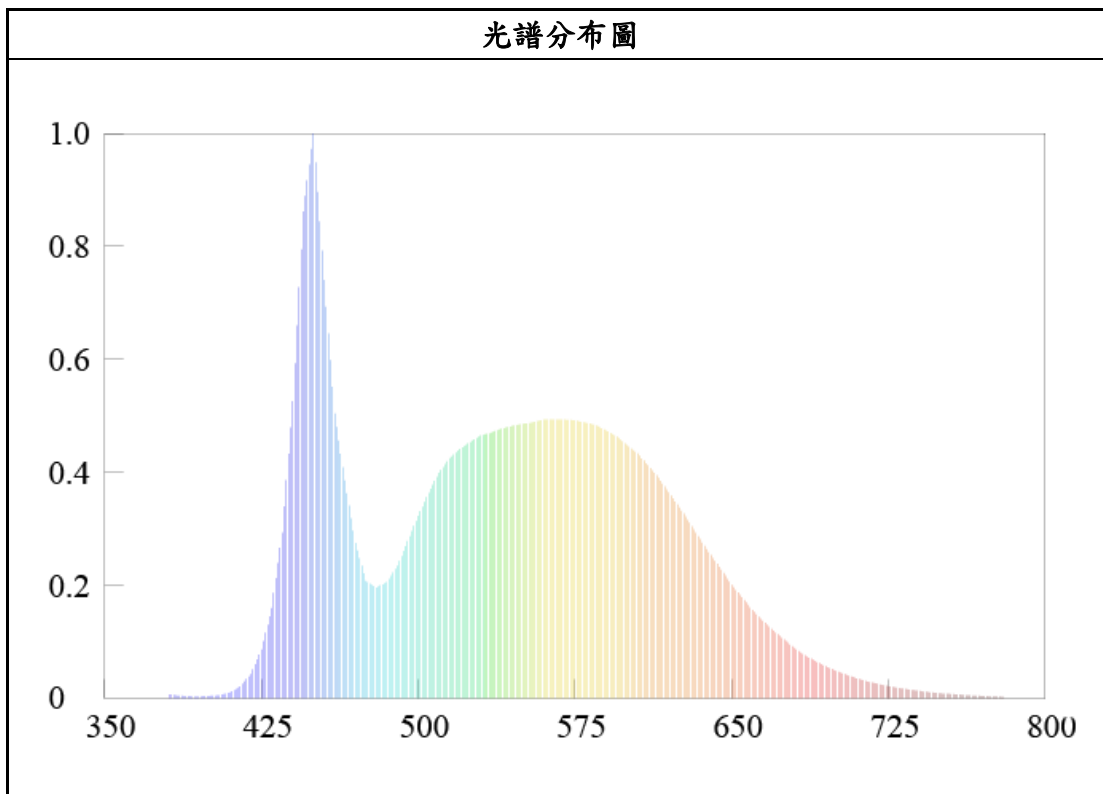


照度距離表



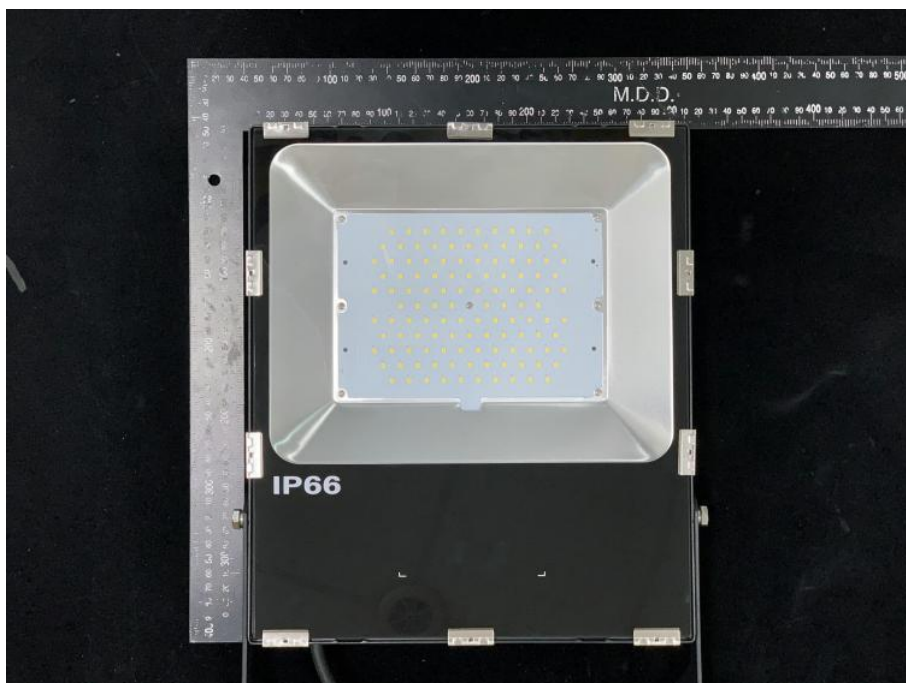
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光譜分布圖及色座標

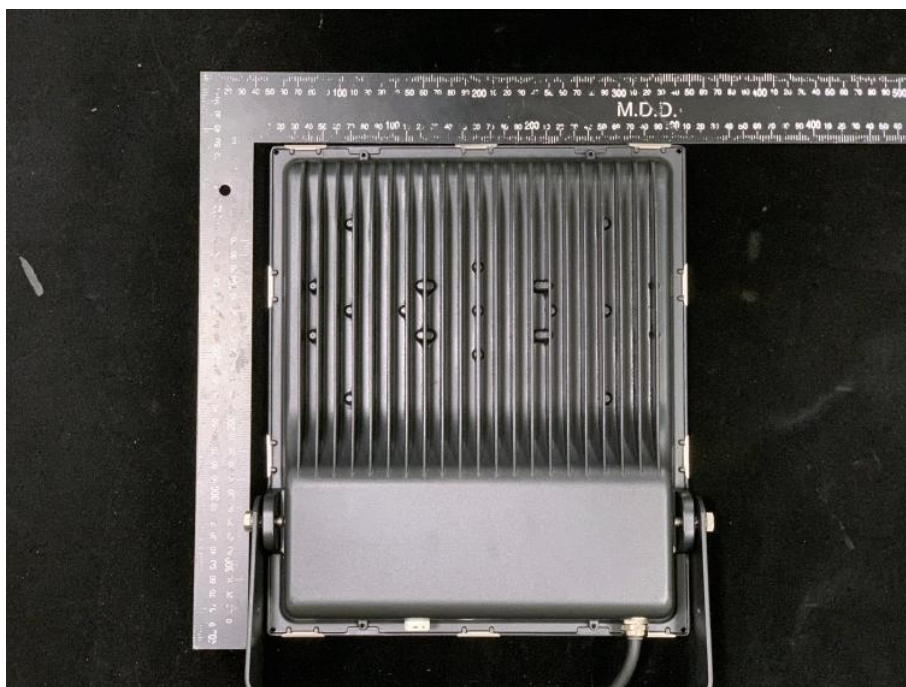


測試樣品照片

測試樣品外觀

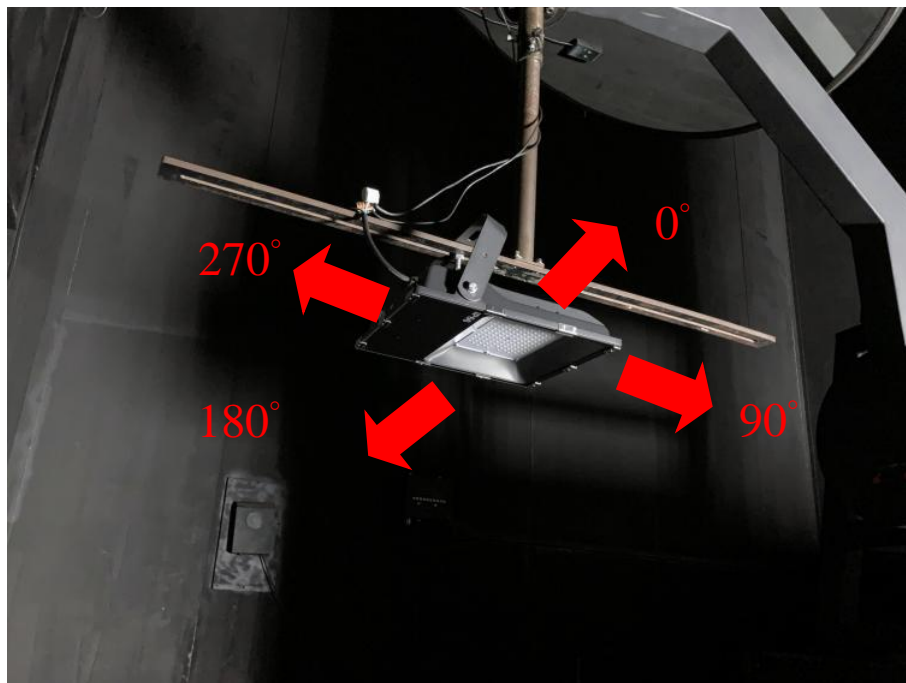


測試樣品外觀



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	6184.074	6210.961	6198.933	6198.933	6186.905	6178.414	6215.208	6191.858
5	6210.961	6176.999	6166.385	6162.848	6150.819	6154.357	6163.556	6147.989
10	6044.685	6064.497	6063.789	6055.298	6048.93	6052.468	6010.722	6019.213
15	5932.183	5908.126	5892.56	5882.654	5864.964	5848.691	5879.824	5833.832
20	5698.688	5714.962	5695.858	5683.83	5667.556	5635.008	5603.168	5596.092
25	5511.893	5483.59	5474.392	5445.382	5419.91	5395.853	5361.182	5344.201
30	5251.51	5236.651	5219.67	5182.169	5156.697	5100.093	5073.205	5049.148
35	4928.155	4921.08	4898.438	4858.107	4846.079	4807.163	4777.445	4766.124
40	4547.488	4531.214	4513.525	4488.053	4463.996	4452.675	4445.6	4444.892
45	4113.046	4094.65	4074.838	4053.611	4044.413	4025.309	4038.753	4053.611
50	3636.858	3622.707	3609.263	3597.235	3577.424	3580.961	3561.149	3591.575
55	3106.188	3113.972	3103.358	3092.745	3082.131	3094.867	3076.471	3093.452
60	2569.15	2566.32	2559.245	2552.876	2547.924	2565.613	2542.263	2533.772
65	1985.413	1981.876	1975.508	1973.385	1969.847	1981.168	1962.771	1923.856
70	1329.505	1327.383	1322.43	1325.967	1345.072	1355.685	1341.534	1332.335
75	619.8226	619.8226	629.0208	636.804	636.804	660.861	674.3047	673.5971
80	137.4081	137.9034	141.3705	142.9979	148.6584	156.3708	147.1017	138.328
85	7.570892	7.712404	7.641648	7.500136	7.500136	7.500136	7.358624	7.217112
90	4.457628	4.528384	4.669896	4.669896	4.457628	4.457628	4.59914	4.457628

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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	6193.273	6194.688	6204.594	6185.489	6215.208	6190.442	6186.197	6198.933
5	6143.036	6150.112	6138.791	6139.498	6111.196	6125.347	6126.055	6127.469
10	6019.213	6012.845	5992.326	5985.25	6005.062	5985.958	5980.297	5974.637
15	5818.266	5815.436	5786.426	5799.869	5770.151	5782.888	5780.765	5775.813
20	5575.573	5571.328	5557.176	5554.346	5581.941	5569.913	5563.544	5564.959
25	5320.851	5313.068	5305.285	5305.285	5301.04	5322.266	5332.88	5337.833
30	5041.365	5022.261	5042.78	5052.686	5049.148	5090.895	5102.923	5126.979
35	4756.926	4752.681	4756.218	4791.596	4815.653	4833.342	4857.399	4874.381
40	4433.571	4452.675	4470.364	4480.27	4491.591	4507.865	4509.987	4500.082
45	4074.838	4094.65	4108.801	4088.281	4061.394	4060.687	4028.139	4025.309
50	3642.519	3634.736	3637.566	3600.065	3576.008	3530.724	3498.177	3484.025
55	3111.849	3092.037	3065.15	3030.479	3004.3	2980.95	2966.799	2949.818
60	2535.895	2490.611	2470.092	2460.186	2447.45	2446.742	2434.714	2417.733
65	1913.95	1907.582	1895.553	1889.893	1871.496	1873.619	1836.118	1798.618
70	1325.967	1318.184	1281.391	1199.314	1177.38	1122.898	1069.831	1059.217
75	650.2477	612.0394	602.8411	554.7271	527.1322	483.2635	464.1594	425.9511
80	127.7853	123.6815	112.1483	99.62445	82.14771	72.87868	55.26044	36.29783
85	7.146356	7.0756	6.863332	6.863332	6.438796	6.509552	6.36804	6.297284
90	4.457628	4.386872	4.386872	4.316116	4.174604	4.033092	3.962336	3.89158

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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	6188.32	6195.395	6158.603	6180.536	6186.197	6176.999	6178.414	6189.027
5	6124.64	6120.394	6119.687	6121.81	6116.148	6122.517	6119.687	6126.762
10	5972.514	5961.9	5972.514	5973.929	5953.41	5954.117	5967.561	5943.504
15	5768.029	5768.737	5731.236	5741.142	5758.123	5751.755	5753.878	5748.925
20	5560.714	5568.497	5568.497	5560.006	5549.393	5543.025	5542.317	5519.676
25	5351.984	5347.738	5361.89	5339.955	5330.757	5321.559	5289.718	5279.813
30	5136.178	5151.037	5154.575	5134.763	5119.904	5098.677	5075.328	5047.025
35	4883.579	4893.485	4877.918	4888.532	4869.428	4841.833	4823.437	4788.059
40	4497.959	4505.742	4484.515	4484.515	4478.147	4460.458	4450.552	4441.354
45	4016.111	4005.497	3982.855	3965.874	3987.101	3973.657	3972.949	3985.685
50	3461.384	3457.138	3478.365	3462.091	3438.034	3442.987	3441.572	3459.261
55	2950.525	2933.544	2940.619	2949.818	2917.978	2913.025	2917.978	2920.1
60	2412.072	2396.506	2404.996	2415.61	2372.449	2378.817	2375.279	2372.449
65	1739.182	1691.068	1680.455	1675.502	1677.625	1707.342	1766.07	1773.853
70	1034.453	1021.009	1021.717	1004.028	1009.688	1007.565	1021.009	1021.717
75	404.7243	393.4034	387.0353	388.4505	386.3278	389.8656	394.8185	434.4419
80	29.00996	28.79769	23.84477	19.74092	23.98628	28.86845	29.00996	39.05731
85	6.01426	6.085016	6.085016	5.943504	6.01426	6.085016	6.085016	6.226528
90	3.962336	3.89158	3.820824	3.89158	3.89158	3.962336	4.174604	4.103848

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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	6190.442	6197.518	6190.442	6184.074	6197.518	6190.442	6238.557	6206.716
5	6103.413	6116.148	6118.979	6131.007	6136.668	6135.252	6147.281	6141.621
10	5980.297	5970.391	5964.731	5976.759	5989.496	6005.062	5975.344	6013.552
15	5733.358	5748.217	5756.708	5763.077	5772.982	5775.813	5838.078	5804.115
20	5519.676	5516.138	5515.43	5521.798	5518.968	5538.072	5547.271	5582.648
25	5265.662	5252.925	5248.68	5263.539	5260.708	5281.936	5296.794	5323.682
30	5003.157	4988.298	4976.977	4962.118	4974.854	4982.637	4994.666	5024.383
35	4756.218	4716.595	4700.321	4678.387	4676.972	4679.094	4664.943	4696.076
40	4424.373	4408.099	4394.655	4372.013	4348.664	4324.607	4344.418	4337.343
45	3992.761	4026.724	4016.111	4001.959	3959.506	3931.204	3921.297	3896.533
50	3478.365	3505.96	3513.035	3523.649	3517.281	3475.535	3443.695	3409.024
55	2917.27	2932.836	2936.374	2959.724	2968.214	2976.705	2938.497	2932.129
60	2363.25	2380.939	2356.882	2368.203	2382.354	2407.827	2404.996	2397.921
65	1784.466	1794.372	1790.127	1785.174	1790.127	1790.834	1814.184	1822.675
70	1069.831	1108.039	1117.237	1187.286	1209.22	1208.512	1197.899	1175.965
75	442.225	468.4047	496.7071	508.0281	503.7827	527.8398	539.8683	527.1322
80	47.1235	59.85958	62.97284	67.35971	75.56741	79.67126	77.12404	79.03445
85	6.297284	6.36804	6.509552	6.509552	6.580308	6.651064	6.792576	6.792576
90	4.103848	4.457628	4.528384	4.59914	4.528384	4.669896	4.59914	4.669896

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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	6214.5	6206.009	6213.084	6209.546	6193.98	6215.915	6204.594	6201.764
5	6144.451	6143.036	6153.649	6156.479	6177.707	6148.696	6143.743	6139.498
10	6016.383	6022.751	6038.317	6022.751	5993.741	6014.26	6024.874	6007.184
15	5823.218	5831.709	5860.719	5849.398	5869.917	5847.983	5840.2	5831.002
20	5605.998	5611.659	5643.499	5649.867	5628.64	5637.838	5624.395	5610.951
25	5351.276	5365.428	5403.636	5418.495	5429.815	5423.447	5405.051	5371.088
30	5062.592	5095.847	5129.103	5148.207	5155.282	5129.81	5120.612	5093.017
35	4717.302	4749.85	4774.615	4791.596	4797.257	4797.257	4776.03	4746.313
40	4335.22	4347.956	4373.429	4392.533	4379.089	4393.948	4373.429	4354.324
45	3883.089	3906.439	3921.297	3941.109	3945.355	3940.401	3928.373	3910.684
50	3430.958	3426.713	3443.695	3459.261	3462.091	3462.799	3455.723	3454.308
55	2935.667	2927.883	2939.204	2946.987	2946.28	2950.525	2944.865	2939.912
60	2412.78	2388.015	2400.751	2395.798	2402.874	2402.874	2404.996	2419.147
65	1822.675	1813.476	1812.769	1812.769	1817.014	1814.891	1825.505	1838.241
70	1179.503	1163.229	1142.709	1143.417	1134.926	1142.002	1158.983	1175.257
75	509.4432	487.5089	489.6315	480.4333	481.8484	481.8484	496.7071	503.7827
80	78.11462	74.36456	62.97284	63.0436	55.18968	55.75573	71.18053	69.76542
85	6.863332	6.863332	6.934088	6.863332	6.72182	6.863332	6.934088	6.863332
90	4.669896	4.669896	4.669896	4.669896	4.59914	4.59914	4.59914	4.59914

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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	6191.15	6196.811	6224.405	6208.131	6205.301	6208.131	6206.009	6189.735
5	6139.498	6133.837	6135.96	6129.592	6128.884	6133.13	6131.715	6135.252
10	6012.845	6014.26	5966.146	5990.203	5989.496	5979.59	5973.222	5959.778
15	5812.605	5797.747	5830.294	5786.426	5774.397	5777.935	5736.896	5767.322
20	5602.46	5567.79	5523.921	5537.365	5530.289	5518.968	5515.43	5512.6
25	5351.276	5327.927	5300.332	5269.907	5244.435	5252.218	5250.803	5247.972
30	5053.394	5020.138	4996.789	4979.807	4981.222	4969.194	4976.977	5012.355
35	4739.237	4696.076	4662.82	4669.896	4689	4703.859	4725.793	4767.539
40	4338.758	4336.635	4348.664	4365.645	4385.457	4418.004	4447.015	4460.458
45	3899.363	3906.439	3940.401	3973.657	4013.28	4050.073	4075.546	4062.81
50	3445.11	3464.214	3459.968	3508.083	3561.857	3559.734	3569.64	3538.508
55	2951.94	2979.535	2975.29	3003.592	3014.206	2990.856	2987.318	2954.771
60	2420.563	2458.063	2440.374	2438.959	2419.855	2394.383	2385.892	2391.553
65	1850.977	1867.958	1843.194	1827.627	1824.09	1829.75	1825.505	1836.118
70	1200.729	1209.928	1241.768	1253.089	1251.674	1242.475	1160.398	1166.059
75	529.2549	544.1136	568.1707	558.2648	529.9625	544.8212	515.8112	493.1693
80	81.93545	82.28923	80.37881	79.38823	78.46841	72.73717	70.33147	66.22762
85	6.934088	6.792576	6.792576	6.863332	6.792576	6.651064	6.651064	6.438796
90	4.669896	4.59914	4.59914	4.59914	4.528384	4.528384	4.457628	4.24536

-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	6222.282	6208.131	6198.226	6198.226	6200.348	6201.056	6162.14	6196.103
5	6103.413	6117.563	6121.102	6128.177	6125.347	6117.563	6135.96	6109.073
10	5988.081	5961.193	5961.193	5961.9	5968.976	5961.9	5978.882	5973.222
15	5745.387	5752.463	5760.246	5756.708	5761.661	5770.151	5713.547	5737.604
20	5531.704	5524.628	5529.582	5532.412	5538.072	5550.808	5570.62	5555.761
25	5252.925	5292.549	5305.993	5310.945	5336.417	5345.616	5363.305	5366.843
30	5016.601	5063.299	5095.14	5131.933	5154.575	5174.386	5177.216	5199.151
35	4808.578	4827.682	4853.862	4884.287	4903.391	4925.325	4913.296	4931.693
40	4479.562	4479.562	4487.346	4494.421	4496.544	4504.327	4495.129	4514.233
45	4026.724	4022.479	3995.591	3993.469	3987.808	4001.252	3992.761	4003.375
50	3499.592	3479.78	3452.185	3442.987	3450.77	3447.232	3492.516	3468.459
55	2952.648	2936.374	2939.912	2942.742	2946.28	2951.94	3010.668	2977.413
60	2410.657	2409.949	2414.195	2417.733	2420.563	2424.808	2458.771	2446.035
65	1846.732	1846.024	1742.013	1717.956	1718.663	1725.739	1739.89	1745.551
70	1076.906	1071.246	1075.491	1087.52	1042.943	1011.811	1013.226	1034.453
75	474.0652	447.1779	415.3377	418.8755	427.3662	433.7343	438.6872	440.1023
80	52.21793	35.51951	35.30724	24.05704	12.94835	12.66532	12.73608	13.37288
85	6.438796	6.438796	6.226528	6.155772	6.155772	6.226528	6.226528	6.155772
90	4.316116	4.174604	4.103848	3.89158	3.962336	3.89158	3.89158	3.89158

-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	6195.395	6193.98	6193.98	6198.933	6219.452	6204.594	6206.009	6201.764
5	6121.102	6131.007	6131.715	6134.545	6111.196	6138.083	6149.404	6165.678
10	5966.146	5971.099	5997.278	5978.175	5985.958	5988.788	5988.788	6002.939
15	5758.831	5763.077	5788.548	5770.859	5771.566	5792.794	5792.086	5806.945
20	5555.761	5560.006	5559.299	5559.299	5562.129	5554.346	5574.865	5578.403
25	5361.89	5354.106	5344.908	5329.342	5310.945	5316.606	5307.408	5318.021
30	5186.415	5160.235	5143.253	5124.149	5088.064	5068.96	5056.931	5049.856
35	4931.693	4917.542	4910.466	4889.239	4875.088	4824.852	4801.502	4772.492
40	4521.308	4526.261	4519.893	4536.875	4531.922	4538.998	4526.261	4503.619
45	4018.941	4029.554	4038.045	4068.47	4082.621	4131.443	4151.962	4151.254
50	3480.488	3483.318	3510.913	3542.045	3562.564	3624.83	3661.623	3685.68
55	2973.167	2980.95	2992.979	3001.469	3034.725	3050.291	3078.594	3104.066
60	2443.205	2455.233	2470.092	2475.752	2487.073	2486.366	2496.272	2509.008
65	1744.135	1752.626	1817.014	1913.95	1914.657	1919.61	1937.299	1933.761
70	1111.577	1115.115	1116.53	1124.313	1216.296	1243.183	1254.504	1364.176
75	438.6872	442.225	450.7157	524.3019	527.8398	595.7655	600.7184	651.6628
80	30.00054	39.69411	42.24133	71.25129	98.35084	95.80362	111.0162	127.5731
85	6.36804	6.438796	6.580308	6.72182	6.792576	6.934088	7.146356	7.0756
90	3.962336	3.962336	4.033092	4.174604	4.24536	4.316116	4.528384	4.528384

-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	6205.301	6203.886	6245.632	6209.546	6222.99	6211.669	6218.037	6222.282
5	6167.8	6168.508	6152.234	6153.649	6167.8	6162.14	6179.121	6176.999
10	6025.581	6033.364	5997.278	6049.638	6054.591	6068.035	6078.647	6069.45
15	5816.851	5826.756	5881.239	5872.04	5884.069	5903.173	5924.4	5912.371
20	5586.894	5596.799	5577.695	5639.253	5659.772	5685.245	5714.255	5717.792
25	5312.36	5344.201	5373.918	5397.976	5419.91	5445.382	5485.712	5489.958
30	5046.318	5049.148	5079.573	5119.904	5146.792	5189.245	5225.331	5245.143
35	4770.37	4782.398	4785.936	4810.7	4839.003	4874.381	4903.391	4919.665
40	4485.931	4469.656	4478.147	4468.241	4472.487	4494.421	4517.063	4532.629
45	4137.104	4093.942	4072.715	4055.026	4050.073	4067.762	4072.715	4098.188
50	3676.482	3662.331	3581.668	3585.914	3597.235	3597.235	3611.386	3622.707
55	3132.368	3152.887	3121.755	3113.264	3109.726	3107.604	3116.094	3113.264
60	2532.357	2586.839	2575.519	2587.547	2590.377	2573.396	2573.396	2576.226
65	1951.45	1960.649	1981.876	1998.149	2009.47	1987.536	1991.781	1986.121
70	1370.544	1371.251	1375.497	1379.034	1370.544	1352.855	1335.873	1322.43
75	650.2477	670.0593	699.7769	693.4088	663.6913	660.1535	636.804	626.8981
80	130.1203	138.3987	148.5168	156.3	159.201	152.4084	148.6584	138.045
85	7.146356	7.217112	7.358624	7.42938	7.570892	7.570892	7.641648	7.500136
90	4.457628	4.669896	4.59914	4.528384	4.669896	4.59914	4.528384	4.457628

-以下空白-

光強數據表(十)

光強數據表(cd)

第 10 頁 共 10 頁

$\gamma/C(^{\circ})$	360.0
0	6184.074
5	6210.961
10	6044.685
15	5932.183
20	5698.688
25	5511.893
30	5251.51
35	4928.155
40	4547.488
45	4113.046
50	3636.858
55	3106.188
60	2569.15
65	1985.413
70	1329.505
75	619.8226
80	137.4081
85	7.570892
90	4.457628

-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	107A-01	角度規	ACUANGLE A-300
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	990-22	快速光譜輻射分析儀	浙大三色 SPR-3000
7	990-23	2π 積分球	浙大三色
8	1080-43	測光標準燈 DC 22.3V/100W	通尚光電(SL810007)
9	103T-14	數字型溫濕度記錄器	TANDD(TR-72UI/F8043A00)
			測試人員：劉醇澤

- 以下空白 -