

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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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：11000LM LED 戶外投射燈

產品型號：F2110C-001

額定電壓 (V)：100~277

額定頻率 (Hz)：50/60

額定功率 (W)：85

外觀尺寸 (mm)：長 355、寬 275、高 55

搭配安定器廠牌/型號：明緯/XLG-75-36A

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試驗內容

試驗條件

環境溫度 (°C)	25.5
環境濕度 (% RH)	57.6
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)	0.388
功率 (W)	84.4
功率因數	0.989

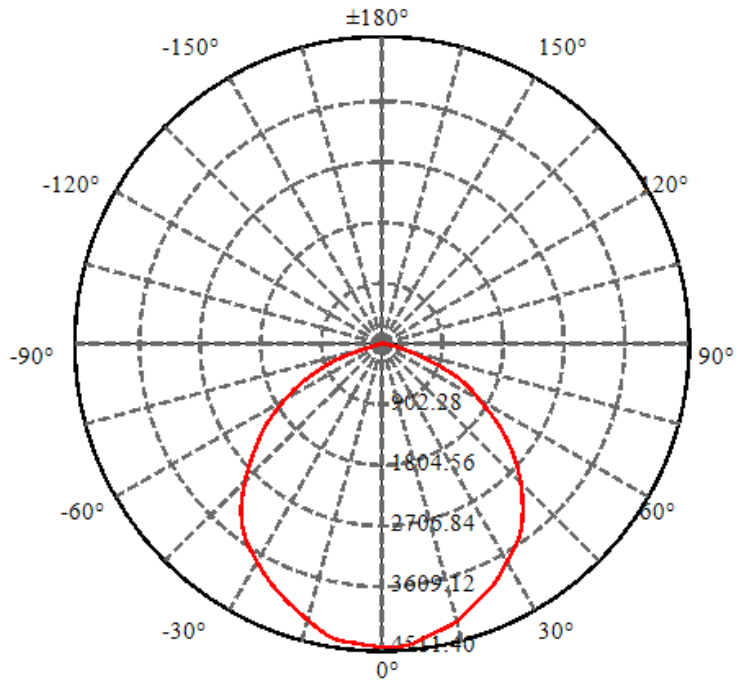
配光量測

試驗項目	試驗結果
燈具光通量 (lm)	11082.9
燈具發光效率 (lm/W)	131.3
中心光強度 (cd)	4456.9
最大光強度 (cd)	4511.4
最大光強度角度 (°)	C : 330.0 γ : 0.0
半峰邊角(50%Imax)	C0_180 Left=52.7 Right=53.5
	C90_270 Left=52.0 Right=52.6
色溫 (K)	5776
色座標	x : 0.3263 y : 0.3410
演色性(Ra)	81.8
R9	5
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

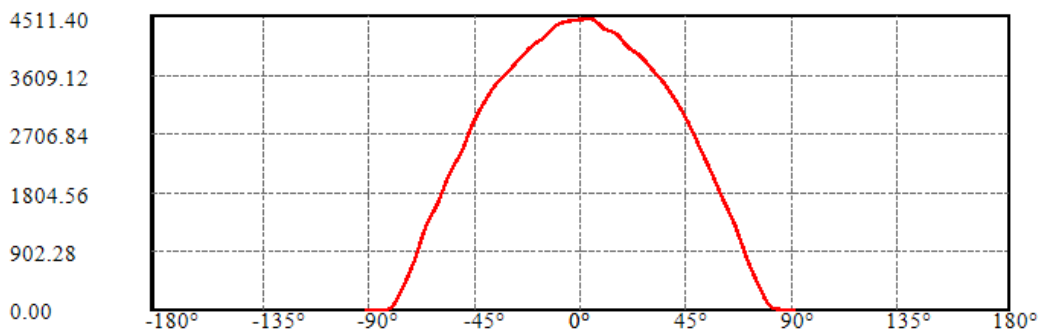
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配光曲線圖(一)

極座標圖 C0 / 180

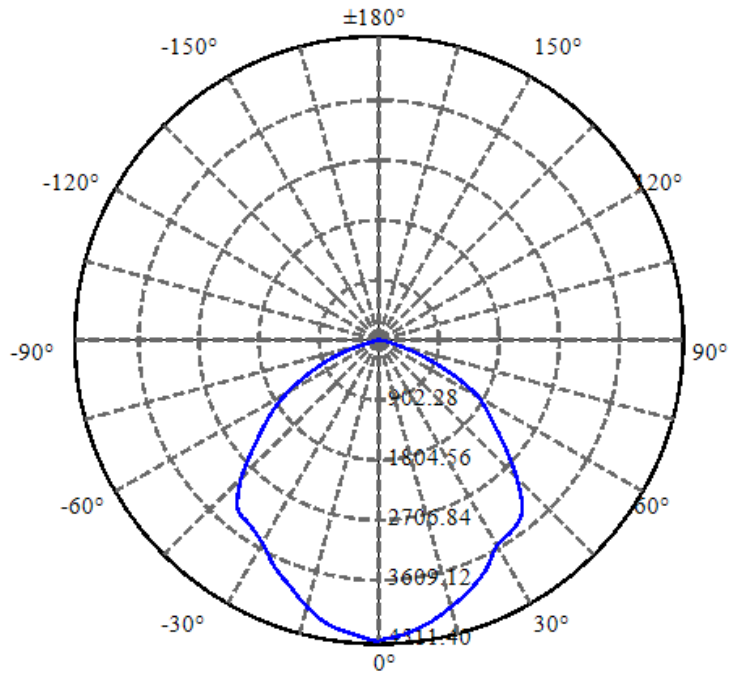


直角座標圖 C0 / 180

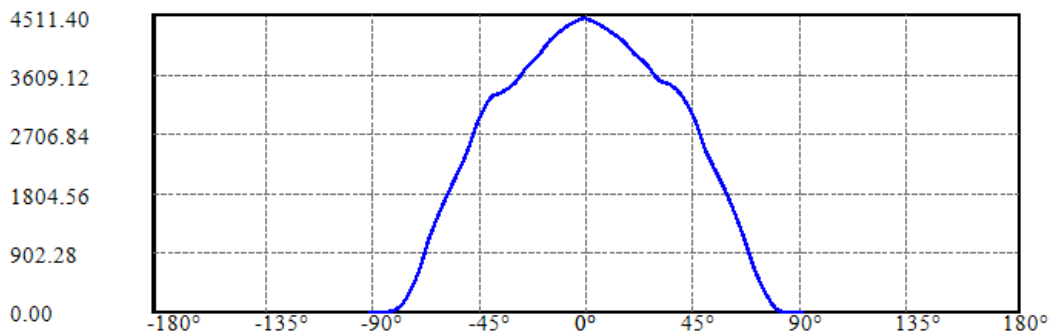


配光曲線圖(二)

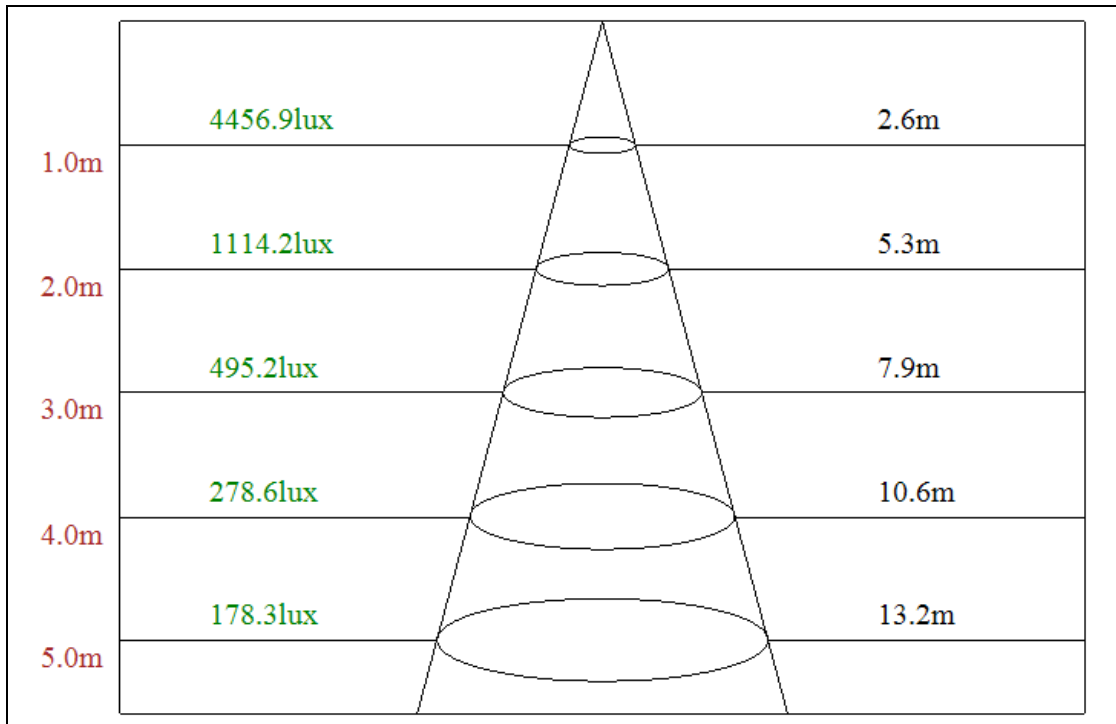
極座標圖 C90 / 270



直角座標圖 C90 / 270

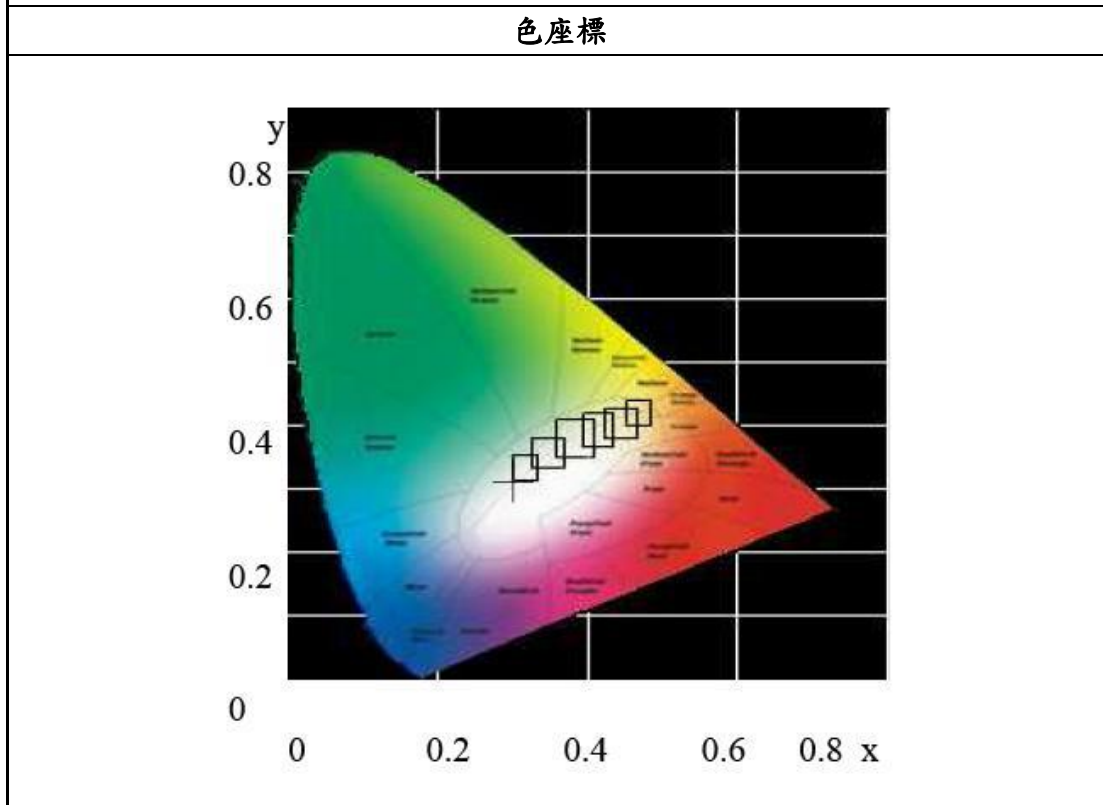
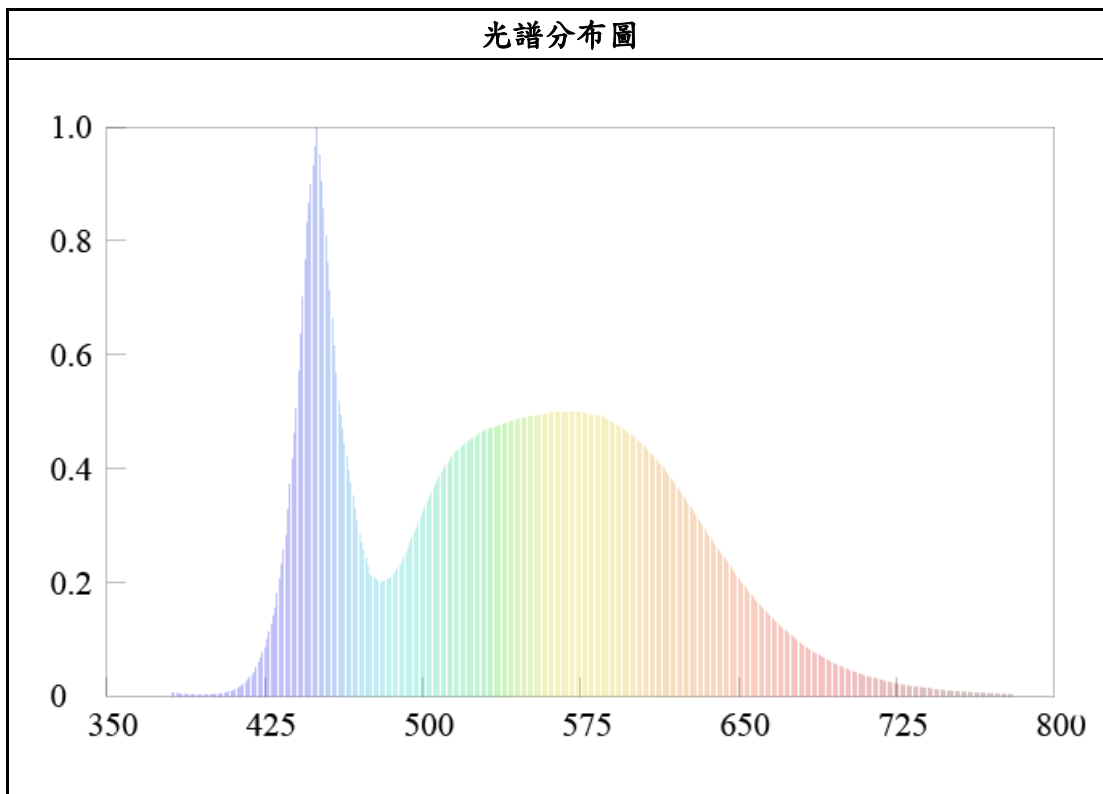


照度距離表



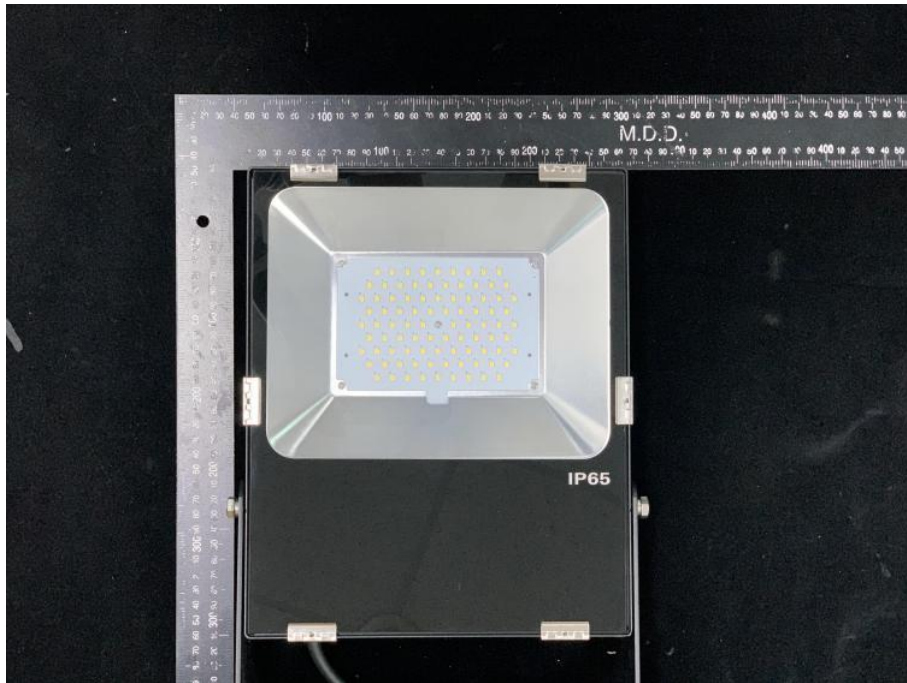
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光譜分布圖及色座標

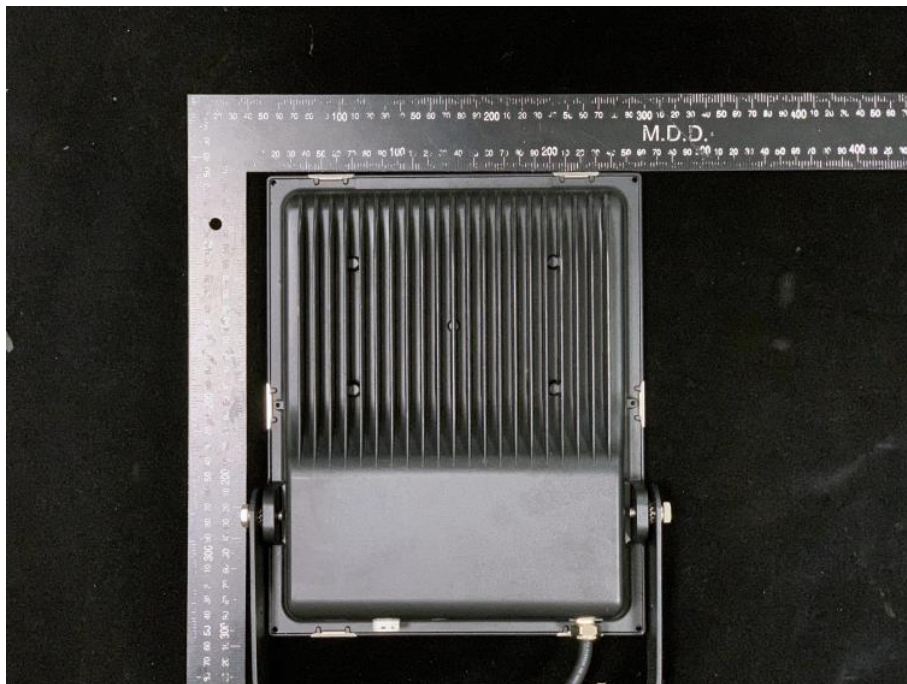


測試樣品照片

測試樣品外觀

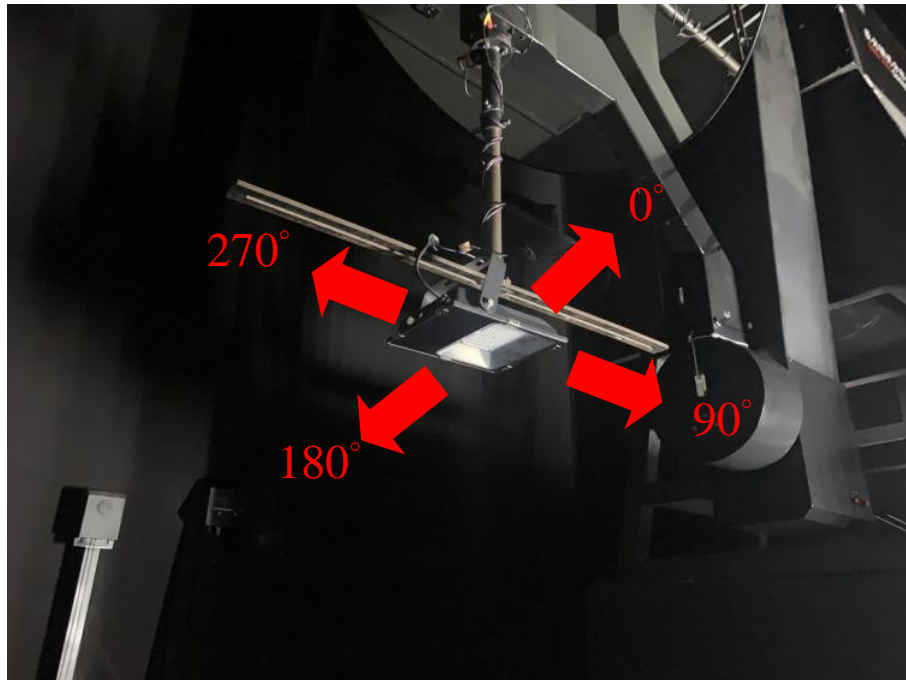


測試樣品外觀



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	4456.92	4461.166	4454.09	4456.213	4463.289	4476.732	4495.836	4461.166
5	4448.43	4415.882	4430.741	4429.326	4423.665	4403.146	4396.778	4418.004
10	4318.239	4343.711	4326.021	4324.607	4323.192	4337.343	4321.069	4306.917
15	4232.624	4208.567	4203.614	4195.123	4185.925	4172.481	4161.16	4171.773
20	4036.63	4055.734	4044.413	4027.431	4016.111	4008.327	3989.931	3984.978
25	3897.24	3878.136	3861.863	3839.221	3826.484	3798.182	3767.757	3742.992
30	3688.51	3686.388	3653.132	3639.689	3593.697	3561.149	3544.168	3534.97
35	3486.856	3487.563	3447.94	3406.194	3372.939	3346.051	3328.362	3281.663
40	3214.445	3225.766	3188.265	3150.057	3118.217	3096.99	3091.33	3047.461
45	2879.062	2885.43	2858.542	2840.146	2828.117	2796.277	2807.598	2809.013
50	2511.13	2492.026	2468.677	2455.233	2465.846	2452.403	2472.922	2520.329
55	2105.698	2098.623	2098.623	2080.934	2088.01	2090.84	2120.557	2171.502
60	1708.757	1708.757	1697.436	1694.606	1710.173	1736.352	1751.211	1756.164
65	1296.957	1296.25	1294.835	1294.835	1315.354	1328.798	1330.92	1306.156
70	822.1847	826.4301	832.0906	837.0435	871.0063	878.7895	904.9692	906.3844
75	353.9215	360.2895	364.3227	366.4453	390.9269	399.4176	416.1868	400.6205
80	60.85016	62.4068	66.01535	75.14288	78.18538	78.25613	75.70892	73.30322
85	13.5144	13.58515	13.58515	13.58515	13.5144	13.37288	13.23137	13.08986
90	3.042508	3.113264	3.113264	3.18402	3.113264	3.113264	3.042508	3.042508

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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	4463.289	4459.75	4461.166	4463.289	4483.1	4463.289	4463.289	4459.75
5	4415.174	4415.174	4406.684	4413.759	4395.363	4405.269	4396.778	4407.391
10	4308.333	4298.427	4293.474	4289.229	4287.106	4287.813	4285.691	4274.37
15	4159.745	4152.669	4146.302	4144.886	4133.565	4130.735	4119.415	4115.876
20	3969.412	3958.798	3955.26	3941.109	3929.081	3940.401	3941.817	3951.015
25	3742.285	3741.577	3731.672	3741.577	3730.964	3739.455	3739.455	3735.209
30	3515.865	3505.96	3503.837	3513.743	3532.847	3523.649	3542.753	3550.536
35	3273.173	3260.436	3280.956	3288.739	3304.305	3350.297	3376.476	3408.316
40	3041.8	3046.753	3078.594	3111.141	3153.595	3193.926	3214.445	3234.964
45	2818.919	2857.835	2881.892	2903.119	2917.978	2917.27	2906.656	2910.194
50	2579.056	2596.038	2593.915	2556.414	2516.791	2494.149	2474.337	2456.648
55	2191.313	2181.407	2165.134	2125.51	2078.811	2064.66	2051.216	2037.065
60	1733.522	1720.078	1708.05	1699.559	1691.776	1688.238	1681.162	1673.379
65	1299.08	1296.957	1296.957	1299.08	1303.326	1301.203	1290.589	1233.985
70	901.4315	892.9407	815.1091	812.9865	772.6555	719.5885	718.1734	708.2676
75	379.7475	379.6767	364.0396	325.6899	311.3264	287.4109	256.915	252.2451
80	63.32662	55.75573	42.52436	32.54776	25.25989	24.62309	24.05704	23.42024
85	12.73608	12.52381	12.24079	11.88701	11.53323	11.25021	11.03794	10.75491
90	2.971752	2.971752	2.83024	2.688728	2.759484	2.759484	2.688728	2.617972

-以下空白-

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	4467.534	4479.562	4453.383	4450.552	4453.383	4459.043	4460.458	4459.75
5	4395.363	4396.778	4384.75	4394.655	4391.825	4394.655	4403.854	4401.731
10	4275.785	4257.389	4267.294	4280.738	4282.861	4283.568	4279.323	4281.446
15	4113.754	4125.075	4115.876	4110.216	4111.631	4112.338	4120.829	4128.613
20	3936.156	3924.835	3936.156	3936.156	3934.741	3935.448	3935.448	3938.986
25	3754.313	3759.266	3757.851	3732.379	3736.625	3728.134	3719.643	3716.813
30	3552.659	3536.385	3527.187	3549.121	3537.8	3520.111	3505.252	3484.025
35	3430.958	3439.449	3433.789	3424.591	3397.703	3363.74	3333.315	3297.937
40	3244.87	3258.314	3290.154	3237.795	3225.059	3192.511	3174.114	3138.029
45	2904.534	2902.411	2904.534	2869.864	2864.91	2865.618	2869.864	2873.401
50	2452.403	2438.959	2450.28	2434.714	2437.544	2445.327	2460.186	2478.583
55	2037.773	2032.82	2051.216	2029.282	2027.159	2032.112	2036.358	2057.584
60	1674.087	1676.917	1691.776	1667.719	1659.228	1665.596	1660.643	1676.21
65	1184.455	1171.012	1176.672	1170.304	1189.408	1238.23	1279.268	1277.853
70	712.5129	686.3332	677.8425	691.2861	698.3617	706.1449	708.9751	710.3902
75	254.7216	248.9196	240.4289	244.1789	243.9667	244.0374	249.4149	275.4531
80	23.27872	22.92494	23.06646	23.06646	23.13721	23.27872	23.42024	23.42024
85	10.68416	10.54264	10.47189	10.47189	10.40113	10.40113	10.54264	10.54264
90	2.547216	2.47646	2.688728	2.617972	2.547216	2.759484	2.759484	2.83024

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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	4466.826	4471.071	4472.487	4466.119	4466.826	4473.194	4461.874	4473.194
5	4391.117	4408.806	4413.052	4415.882	4420.835	4438.524	4463.289	4431.448
10	4306.21	4289.937	4302.672	4304.087	4306.917	4295.597	4305.502	4323.192
15	4113.754	4135.688	4139.934	4145.594	4156.915	4183.802	4180.972	4173.188
20	3953.138	3934.033	3938.279	3953.845	3952.43	3941.109	3974.365	3984.978
25	3711.152	3713.275	3716.813	3711.152	3721.058	3761.389	3781.908	3776.955
30	3492.516	3468.459	3469.167	3472.704	3476.95	3487.563	3494.639	3558.319
35	3267.512	3247.7	3227.181	3241.332	3253.361	3263.974	3266.805	3336.146
40	3116.802	3055.951	3026.234	3013.498	3029.772	3058.782	3096.99	3104.773
45	2886.845	2865.618	2838.731	2818.919	2803.353	2802.645	2806.891	2792.739
50	2509.715	2554.292	2564.905	2567.028	2511.13	2473.63	2452.403	2410.657
55	2098.623	2133.293	2138.954	2155.228	2136.831	2119.142	2098.623	2054.754
60	1682.578	1679.747	1679.747	1697.436	1709.465	1719.371	1725.031	1685.408
65	1281.391	1275.023	1265.825	1269.363	1273.608	1290.589	1302.618	1296.957
70	781.8538	796.005	822.1847	876.6668	880.9122	866.0534	850.4871	824.3074
75	299.7932	323.4257	334.7466	352.7894	361.9877	365.3132	367.5067	347.6242
80	23.56175	27.24106	34.59969	41.39226	51.9349	51.01508	52.00566	49.17542
85	10.47189	10.54264	10.54264	10.54264	10.47189	10.47189	10.47189	10.33038
90	2.83024	2.83024	3.042508	2.971752	3.042508	3.042508	3.042508	3.042508

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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	4465.411	4471.779	4469.656	4466.119	4456.92	4473.194	4468.241	4466.826
5	4427.91	4434.279	4438.524	4433.571	4425.081	4443.477	4433.571	4440.646
10	4335.928	4337.343	4330.975	4335.928	4364.23	4333.098	4346.541	4342.296
15	4175.312	4183.095	4195.123	4202.906	4181.68	4210.689	4193	4188.048
20	4001.252	4011.865	4027.431	4038.045	4050.073	4030.969	4032.384	4018.941
25	3798.182	3822.947	3836.39	3847.004	3854.787	3845.589	3833.56	3815.164
30	3592.99	3619.877	3644.642	3670.114	3668.698	3653.84	3627.66	3593.697
35	3370.816	3412.562	3442.279	3471.997	3481.903	3461.384	3421.76	3386.382
40	3118.925	3152.887	3179.067	3196.756	3227.889	3184.02	3150.765	3130.953
45	2791.324	2801.23	2821.749	2843.684	2846.514	2834.485	2801.23	2779.296
50	2397.213	2404.996	2425.516	2438.959	2429.761	2426.223	2402.874	2392.968
55	2037.065	2042.726	2054.047	2060.415	2063.245	2049.801	2037.065	2029.99
60	1665.596	1662.766	1664.889	1664.181	1660.643	1661.351	1661.351	1652.153
65	1281.391	1267.24	1265.117	1263.702	1265.825	1262.287	1260.872	1262.995
70	819.3545	782.5613	764.8723	760.627	762.7496	757.7968	763.4572	790.3445
75	336.1618	328.3078	324.2747	312.9538	309.3452	312.3878	316.067	325.9729
80	45.42535	37.7837	30.92037	32.19398	30.14206	28.44391	30.35432	33.46759
85	10.33038	10.18886	10.18886	10.11811	10.18886	10.11811	10.18886	10.25962
90	3.113264	3.042508	3.042508	2.971752	2.971752	3.042508	3.042508	3.042508

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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	4475.317	4477.44	4468.949	4474.609	4467.534	4483.808	4479.562	4485.931
5	4434.279	4444.185	4454.09	4430.033	4427.203	4427.203	4427.203	4426.496
10	4333.098	4313.286	4309.041	4323.192	4322.484	4323.192	4320.361	4311.871
15	4190.17	4200.784	4197.954	4169.651	4165.406	4155.5	4158.33	4156.208
20	3997.007	3974.365	3970.827	3979.317	3964.459	3949.6	3934.033	3924.835
25	3797.475	3792.522	3756.436	3716.105	3689.218	3679.312	3678.604	3684.265
30	3556.197	3497.469	3455.015	3452.893	3444.402	3435.911	3433.789	3448.647
35	3341.806	3278.833	3226.474	3222.228	3200.294	3189.68	3187.558	3204.539
40	3082.131	3073.641	3043.923	2996.517	2968.922	2961.846	2976.705	3017.743
45	2771.512	2781.418	2772.22	2755.946	2751.701	2778.588	2811.844	2851.467
50	2384.477	2405.704	2443.205	2451.695	2513.253	2552.169	2547.216	2509.715
55	2022.207	2045.556	2098.623	2114.189	2141.784	2141.077	2131.171	2091.547
60	1654.983	1688.946	1722.201	1710.88	1696.729	1677.625	1649.322	1646.492
65	1279.268	1296.957	1301.91	1275.731	1253.089	1251.674	1246.013	1252.381
70	814.4016	831.3829	837.751	856.8551	865.3459	831.3829	783.2689	774.7782
75	341.2562	352.5064	353.2139	349.3224	333.19	317.4822	325.3361	288.2599
80	40.6847	43.79797	47.05274	50.37827	46.76972	37.71295	27.73635	24.19855
85	10.33038	10.47189	10.47189	10.47189	10.54264	10.47189	10.33038	10.33038
90	3.113264	3.042508	2.971752	2.971752	2.900996	2.83024	2.900996	2.688728

-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	4486.638	4476.025	4473.902	4466.826	4480.27	4492.298	4484.515	4463.996
5	4409.514	4429.326	4422.25	4426.496	4418.004	4411.637	4393.948	4413.759
10	4319.654	4304.087	4309.041	4298.427	4301.965	4295.597	4287.813	4296.304
15	4134.98	4146.302	4134.98	4132.858	4122.245	4121.537	4106.678	4098.895
20	3909.269	3905.024	3910.684	3903.609	3901.486	3891.58	3892.288	3897.948
25	3681.435	3696.293	3701.954	3696.293	3707.614	3709.737	3700.539	3692.756
30	3457.846	3454.308	3471.997	3480.488	3481.195	3468.459	3476.242	3494.639
35	3223.644	3240.625	3268.219	3301.475	3320.579	3341.806	3347.466	3324.117
40	3064.442	3096.99	3132.368	3179.775	3200.294	3232.134	3260.436	3204.539
45	2869.156	2869.156	2863.495	2864.91	2859.25	2881.892	2886.845	2864.203
50	2482.12	2452.403	2433.299	2433.299	2422.686	2409.949	2417.733	2426.223
55	2045.556	1999.565	1982.583	1977.63	1981.168	1981.876	1986.121	1985.413
60	1635.879	1628.803	1618.19	1624.558	1618.897	1636.586	1638.001	1628.803
65	1248.136	1248.843	1168.182	1132.096	1129.973	1137.049	1141.294	1138.464
70	693.4088	689.1634	691.9937	658.7383	614.162	604.9638	611.3318	623.3604
75	285.3589	240.9949	242.127	218.4945	197.6923	193.5884	193.6592	203.0697
80	23.84477	23.6325	23.49099	23.34948	23.06646	22.85419	22.78343	22.78343
85	10.18886	10.11811	10.11811	10.04735	9.976596	9.976596	9.976596	9.976596
90	2.759484	2.688728	2.688728	2.47646	2.617972	2.47646	2.47646	2.547216

-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	4471.779	4471.779	4473.194	4478.147	4485.223	4476.025	4471.779	4480.978
5	4418.004	4421.542	4420.127	4422.25	4434.279	4427.91	4434.986	4434.986
10	4300.55	4294.182	4297.719	4304.795	4271.54	4299.842	4298.427	4308.333
15	4102.433	4113.046	4122.245	4127.905	4154.792	4146.302	4150.547	4161.868
20	3892.288	3900.071	3900.778	3890.165	3891.58	3929.081	3949.6	3961.628
25	3696.293	3694.171	3699.831	3692.048	3706.199	3689.926	3699.124	3712.567
30	3482.61	3481.195	3467.751	3465.629	3454.308	3463.506	3446.525	3465.629
35	3312.089	3288.031	3262.559	3237.087	3219.398	3225.059	3224.351	3226.474
40	3190.388	3149.35	3114.679	3087.792	3029.064	3007.13	2997.932	3006.422
45	2865.618	2876.939	2876.231	2888.26	2858.542	2831.655	2804.768	2794.154
50	2443.912	2447.45	2460.894	2496.979	2532.357	2572.688	2563.49	2545.093
55	1983.998	1997.442	2014.423	2063.953	2094.378	2145.322	2167.256	2182.115
60	1632.341	1635.171	1650.737	1656.398	1661.351	1676.917	1708.05	1727.154
65	1141.294	1195.776	1269.363	1272.901	1272.193	1270.778	1282.806	1289.882
70	681.3802	708.9751	702.6071	707.56	805.2033	801.6655	878.082	894.3559
75	241.9148	248.2121	246.0186	304.6753	303.4725	356.4687	341.6807	371.2567
80	22.9957	23.20797	23.77402	24.05704	24.7646	36.93463	47.05274	58.23219
85	10.18886	10.33038	10.54264	10.89642	11.10869	11.32096	11.67474	11.81625
90	2.547216	2.617972	2.617972	2.83024	2.83024	2.900996	2.83024	2.900996

-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	4478.854	4498.667	4511.402	4480.27	4473.902	4478.147	4483.1	4480.27
5	4435.694	4412.344	4407.391	4427.203	4436.401	4434.986	4420.835	4426.496
10	4317.531	4343.711	4324.607	4335.22	4330.267	4338.758	4335.928	4340.881
15	4165.406	4167.528	4175.312	4188.048	4195.831	4207.859	4219.18	4219.18
20	3975.78	3999.837	3997.007	4017.526	4033.092	4045.121	4052.904	4058.564
25	3724.596	3764.219	3778.371	3803.843	3827.899	3859.032	3880.259	3886.627
30	3487.563	3505.252	3562.564	3594.405	3620.584	3652.425	3675.066	3699.831
35	3250.531	3296.522	3338.268	3351.712	3406.901	3441.572	3473.412	3496.761
40	3012.083	3067.98	3088.499	3107.604	3149.35	3171.991	3210.2	3230.719
45	2779.296	2789.201	2785.664	2806.183	2820.334	2841.561	2874.816	2888.26
50	2504.762	2454.526	2425.516	2441.082	2448.865	2463.724	2483.536	2506.177
55	2160.888	2119.142	2066.783	2079.519	2083.764	2086.594	2100.746	2102.868
60	1749.088	1762.532	1729.277	1708.757	1705.22	1693.191	1703.097	1708.757
65	1301.203	1334.458	1338.703	1321.722	1307.571	1300.495	1300.495	1296.957
70	902.139	880.9122	885.8651	870.2988	846.2418	827.8452	823.5999	816.5243
75	400.2667	409.8188	405.6441	385.2664	371.8936	363.4028	358.0254	355.9027
80	63.6804	70.47298	70.47298	69.83617	65.80308	59.93034	54.48212	57.17085
85	12.02852	12.17003	12.3823	12.59457	12.73608	12.94835	13.0191	13.30213
90	2.971752	2.971752	3.042508	2.971752	3.042508	3.18402	3.042508	3.113264

-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	4456.92
5	4448.43
10	4318.239
15	4232.624
20	4036.63
25	3897.24
30	3688.51
35	3486.856
40	3214.445
45	2879.062
50	2511.13
55	2105.698
60	1708.757
65	1296.957
70	822.1847
75	353.9215
80	60.85016
85	13.5144
90	3.042508

-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	2 π 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 -