

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： 105 年 03 月 28 日

測試日期： 105 年 03 月 28 日 至 105 年 03 月 29 日

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報告簽署人：


黃錫偉



試驗報告

測試樣品基本資料表

委測單位：昶旭能源股份有限公司

委測單位地址：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：100W LED 崁燈

燈具型號：DE100C-001

額定輸入電壓 (V)：100~277

額定輸入頻率 (Hz)：50/60

額定輸入功率 (W)：100

安定器廠牌/型號：MEAN WELL / HLG-120H-36

安定器數量：1

光源種類：LED

晶片型號：CT-90/5000K

晶片廠牌：宏齊

光源數量：4

測試件外觀尺寸(mm)：直徑 240mm x 高 106mm

試驗內容

試驗條件

環境溫度 (°C)	25.1
環境濕度 (% RH)	60.2
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)	0.467
功率 (W)	98.7
功率因數	0.961

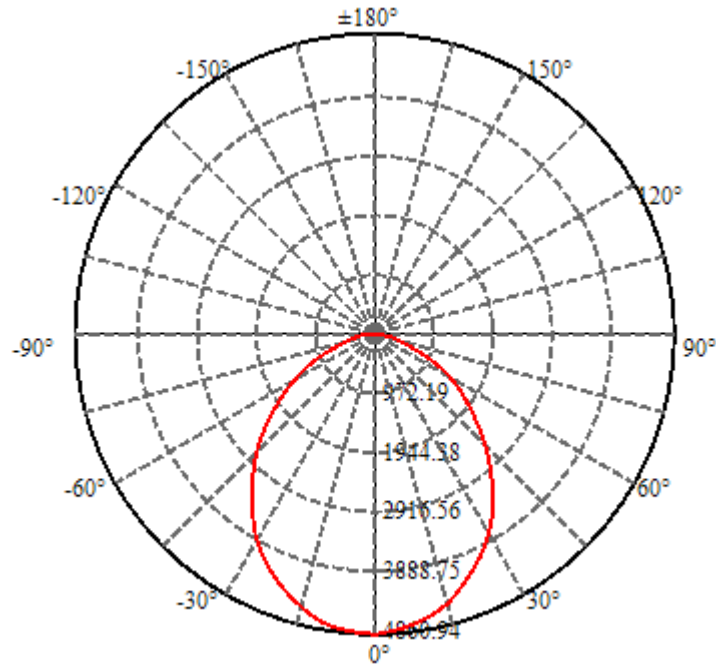
配光量測

試驗項目	試驗結果
燈具全光通量 (lm)	11056.2
燈具發光效率 (lm/W)	112.0
中心光強度 (cd)	4850.3
最大光強度 (cd)	4860.9
最大光強度角度 (°)	C : 330.0 γ : 0.0
半峰邊角 (50% I_{max})	C0_180 Left=48.3 Right=46.5
	C90_270 Left=47.7 Right=47.2
色溫 (K)	5188
色座標	x=0.3401 y=0.3483
演色性 Ra	85.7

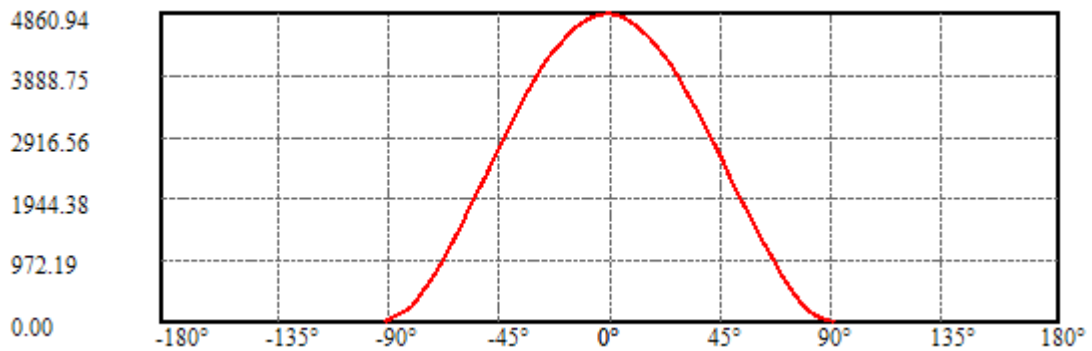
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配光曲線圖(一)

極座標圖 C0 / 180

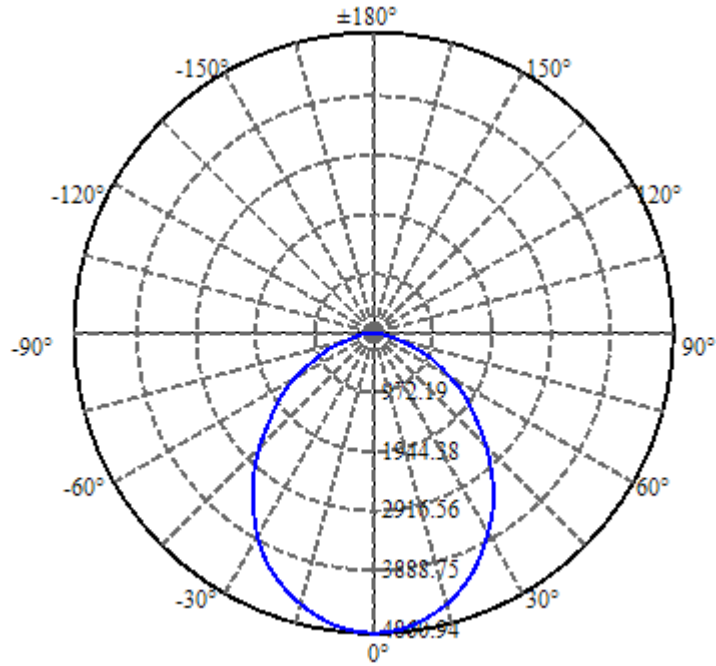


直角座標圖 C0 / 180

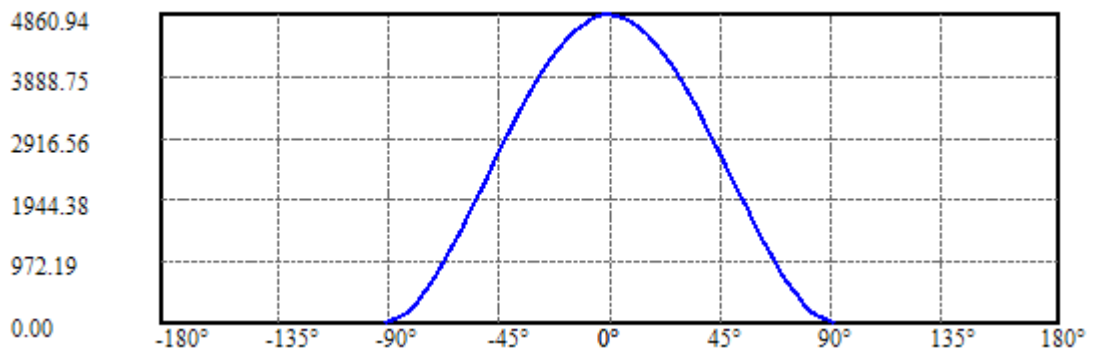


配光曲線圖(二)

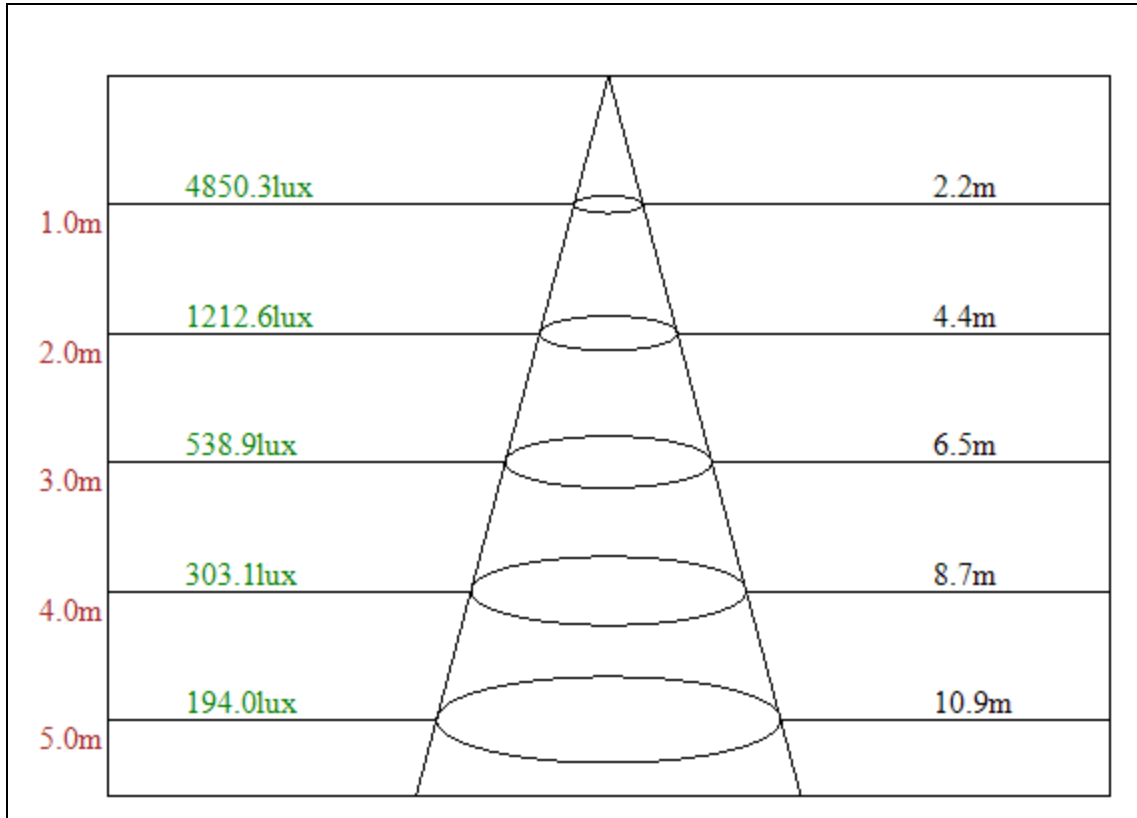
極座標圖 C90 / 270



直角座標圖 C90 / 270

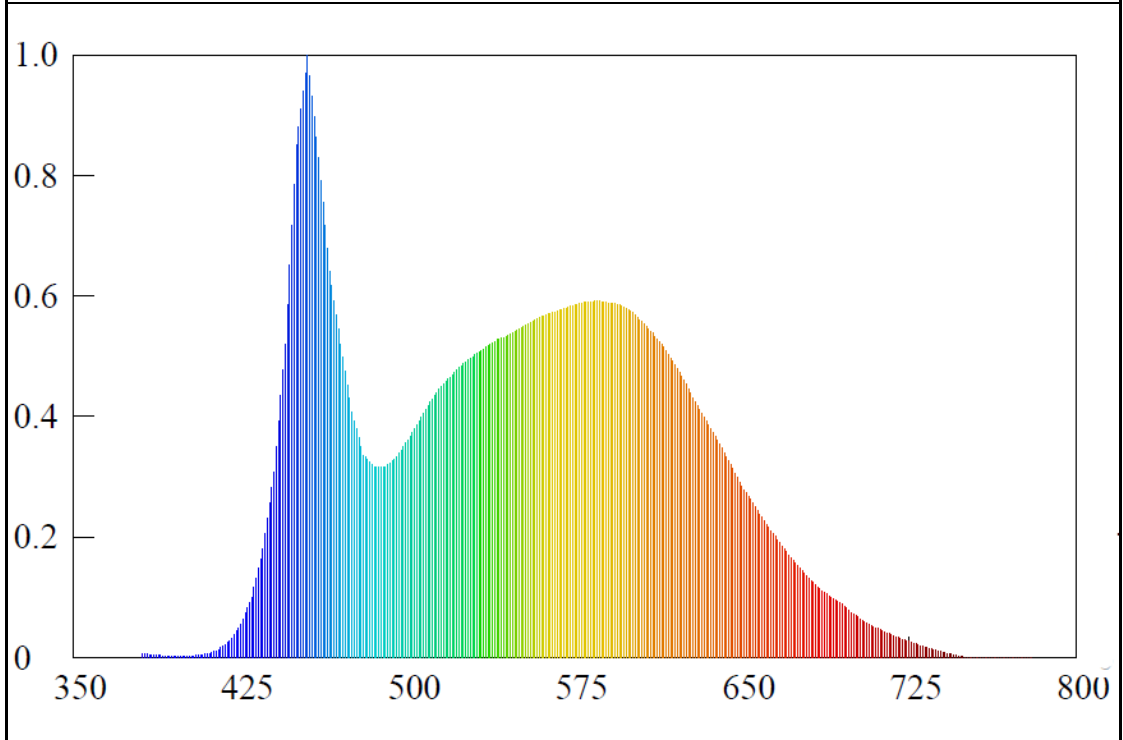


照度距離表

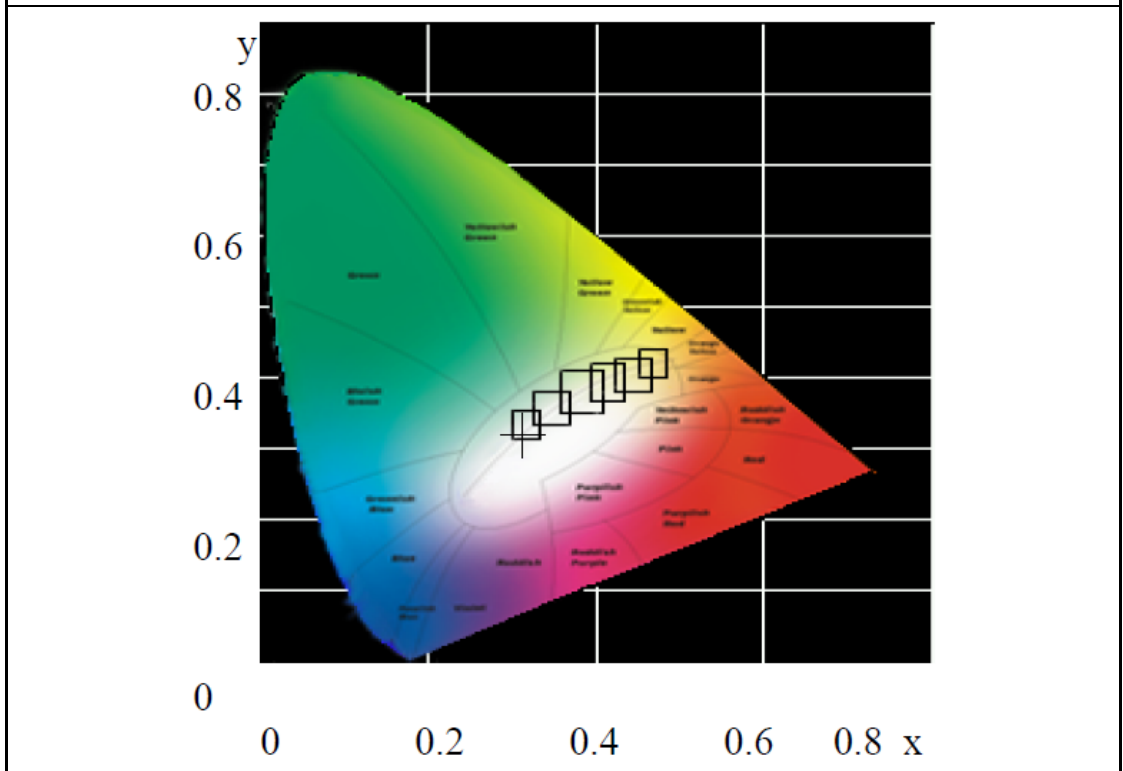


測試結果

光譜分布圖

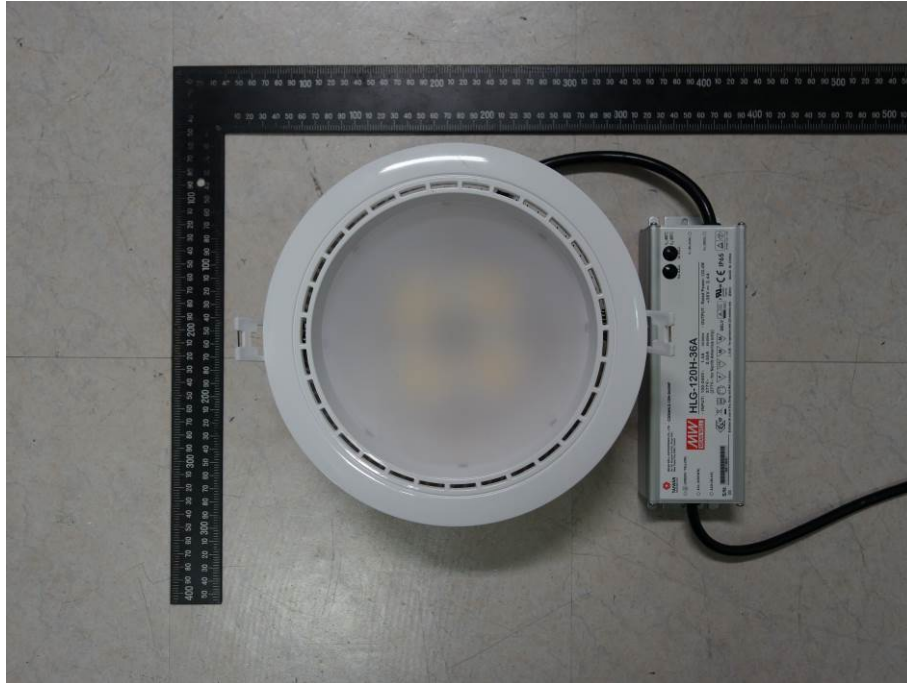


色座標

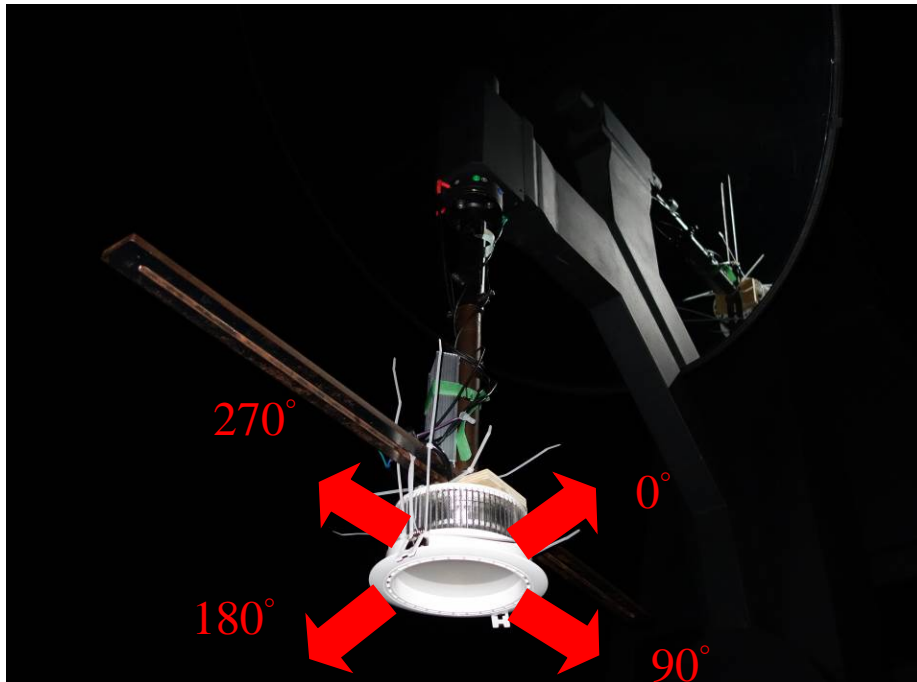


測試樣品照片

測試樣品外觀



測試樣品架設方向



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	4850.324	4849.616	4848.909	4848.201	4848.909	4848.909	4850.324	4850.324
5	4796.549	4795.842	4794.427	4793.719	4795.134	4795.842	4796.549	4797.964
10	4681.217	4679.802	4679.094	4679.094	4678.387	4679.094	4681.217	4682.632
15	4510.695	4509.28	4508.572	4507.865	4507.865	4508.572	4510.695	4511.402
20	4284.983	4283.568	4282.153	4282.153	4282.153	4282.153	4283.568	4285.691
25	4009.035	4007.62	4006.205	4005.497	4005.497	4005.497	4006.912	4009.035
30	3687.095	3685.68	3683.557	3683.557	3683.557	3684.973	3686.388	3687.803
35	3329.777	3329.07	3327.655	3326.947	3327.655	3328.362	3329.777	3331.9
40	2948.402	2945.572	2944.865	2945.572	2944.865	2946.28	2948.402	2950.525
45	2551.461	2550.754	2550.046	2550.046	2550.754	2552.169	2554.292	2556.414
50	2153.105	2152.397	2152.397	2152.397	2152.397	2155.228	2157.35	2160.181
55	1760.409	1758.994	1758.994	1758.286	1761.117	1761.824	1763.947	1766.777
60	1379.034	1378.327	1377.619	1379.034	1380.45	1382.572	1383.987	1386.818
65	1019.594	1018.886	1018.179	1018.886	1019.594	1020.302	1021.717	1023.839
70	690.5786	689.1634	688.4559	687.0408	687.0408	685.6256	686.3332	686.3332
75	399.0638	398.3563	398.3563	396.9412	396.9412	396.2336	396.2336	396.2336
80	183.1165	182.975	183.1165	183.7533	184.3194	185.31	186.4421	188.0694
85	71.39281	71.46356	71.67583	71.95885	72.5249	73.16171	74.01077	75.07211
90	1.910412	1.910412	1.910412	1.910412	1.981168	1.981168	2.051924	1.910412

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	4851.031	4852.446	4853.862	4855.277	4855.984	4855.984	4856.692	4856.692
5	4800.794	4802.21	4803.625	4805.748	4807.163	4808.578	4808.578	4809.285
10	4685.462	4688.292	4691.123	4692.538	4693.953	4696.076	4697.491	4697.491
15	4514.94	4517.063	4520.601	4522.016	4524.846	4526.969	4529.092	4530.506
20	4287.813	4289.937	4294.182	4295.597	4299.842	4301.965	4305.502	4309.748
25	4011.865	4014.695	4017.526	4020.356	4023.894	4027.431	4031.677	4035.922
30	3689.926	3693.463	3696.293	3699.124	3703.369	3708.322	3712.567	3718.228
35	3334.023	3336.853	3340.391	3343.928	3348.881	3352.419	3356.665	3362.325
40	2952.648	2955.478	2959.016	2962.553	2967.506	2971.044	2975.29	2980.243
45	2559.952	2562.075	2564.905	2567.735	2571.98	2575.519	2580.471	2583.302
50	2163.011	2165.841	2169.379	2171.502	2174.332	2177.162	2181.407	2185.653
55	1769.608	1773.853	1775.268	1779.513	1781.636	1784.466	1788.712	1791.542
60	1390.355	1392.478	1395.308	1398.139	1400.969	1403.799	1408.044	1411.582
65	1025.962	1028.792	1030.915	1034.453	1037.283	1041.528	1045.066	1048.604
70	687.0408	689.871	692.7012	695.5315	700.4844	706.1449	711.0978	716.7583
75	397.6487	399.0638	401.8941	405.4319	408.9697	414.6302	420.2906	425.2436
80	189.6968	191.0412	192.5978	193.5884	195.0743	195.6403	195.9941	196.4894
85	76.27497	77.47782	77.76084	77.19479	75.56741	75.14288	75.99194	76.91177
90	1.981168	2.051924	1.981168	1.981168	2.051924	2.051924	2.051924	2.12268

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	4855.984	4855.984	4854.569	4853.862	4853.154	4852.446	4851.739	4851.739
5	4808.578	4809.285	4809.285	4809.285	4810.7	4810.7	4812.116	4813.531
10	4698.906	4700.321	4701.029	4702.444	4703.859	4705.981	4708.812	4711.642
15	4532.629	4535.459	4537.583	4539.705	4542.535	4546.073	4548.903	4553.856
20	4312.578	4315.408	4318.239	4321.776	4326.729	4329.56	4335.928	4339.465
25	4039.46	4044.413	4048.658	4052.904	4056.441	4062.81	4068.47	4074.13
30	3722.473	3726.719	3732.379	3737.332	3742.992	3747.945	3754.313	3761.389
35	3367.986	3372.231	3378.599	3384.26	3390.627	3397.703	3402.656	3410.439
40	2985.903	2991.564	2996.517	3002.885	3009.252	3016.328	3023.404	3029.772
45	2589.67	2594.623	2600.283	2606.651	2611.604	2617.972	2625.048	2632.831
50	2189.191	2194.144	2199.804	2206.172	2211.125	2216.785	2224.569	2233.059
55	1797.202	1800.74	1804.986	1811.354	1817.014	1824.09	1829.043	1837.533
60	1415.12	1420.78	1423.611	1429.979	1434.932	1440.592	1447.668	1451.913
65	1052.849	1057.802	1062.048	1066.293	1071.246	1076.199	1081.859	1086.812
70	721.7112	726.6641	733.0322	736.5699	740.1078	744.3531	748.5984	751.4288
75	430.9041	435.1494	440.8099	444.3477	448.593	450.7157	453.5459	456.3762
80	198.0461	200.098	201.8669	204.6971	207.1028	210.2868	214.8152	218.5653
85	78.53916	80.52032	82.5015	84.27039	85.96854	87.73744	89.50634	91.4875
90	2.12268	2.051924	2.051924	1.839656	1.981168	2.12268	2.12268	2.12268

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	4852.446	4853.154	4853.154	4853.862	4854.569	4857.399	4858.107	4859.522
5	4814.946	4816.361	4819.191	4821.314	4824.144	4825.559	4827.682	4829.097
10	4714.472	4718.01	4721.548	4725.085	4728.624	4732.162	4734.284	4735.699
15	4558.102	4563.054	4566.592	4571.545	4576.498	4580.743	4583.574	4586.404
20	4345.126	4350.079	4356.447	4360.692	4365.645	4370.598	4374.136	4376.966
25	4079.083	4085.452	4091.112	4098.188	4103.14	4108.094	4111.631	4116.584
30	3767.049	3773.417	3779.078	3787.569	3792.522	3798.89	3803.135	3808.088
35	3416.807	3424.591	3431.666	3437.326	3442.987	3449.355	3455.015	3458.553
40	3036.14	3043.216	3050.999	3058.782	3063.735	3070.811	3076.471	3081.424
45	2639.199	2647.69	2654.058	2661.133	2668.209	2672.454	2677.407	2682.36
50	2240.135	2247.918	2253.579	2260.654	2267.022	2271.975	2276.22	2279.758
55	1843.901	1851.685	1858.052	1863.713	1869.374	1872.911	1877.157	1879.279
60	1458.281	1464.649	1471.017	1477.385	1480.216	1483.753	1485.876	1488.706
65	1091.765	1096.01	1102.378	1105.916	1109.454	1111.577	1114.407	1117.237
70	754.9666	757.7968	761.3345	764.1649	767.7026	770.5328	771.9479	774.7782
75	457.7913	458.4989	461.3291	462.7442	466.282	468.4047	473.3577	476.1879
80	223.2352	228.4004	232.575	235.5467	237.3156	239.0845	240.7827	241.9148
85	93.68095	95.94514	98.70463	102.8085	105.3557	106.9123	107.6906	108.5397
90	2.193436	2.405704	3.113264	4.174604	5.3067	6.438796	7.287868	8.13694

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	4859.522	4859.522	4859.522	4858.107	4858.107	4856.692	4855.984	4855.277
5	4829.097	4829.805	4829.805	4829.097	4827.682	4826.974	4826.974	4826.267
10	4737.114	4737.822	4737.822	4737.822	4737.822	4737.114	4737.114	4737.822
15	4587.111	4588.527	4589.234	4590.649	4589.942	4590.649	4590.649	4590.649
20	4380.504	4381.919	4383.334	4384.042	4386.165	4386.165	4386.165	4386.872
25	4120.829	4122.952	4125.075	4127.198	4128.613	4129.32	4130.735	4130.735
30	3812.333	3815.164	3818.701	3820.116	3821.531	3822.239	3823.654	3823.654
35	3463.506	3467.044	3469.874	3472.704	3474.119	3476.242	3476.95	3477.657
40	3086.377	3088.499	3092.745	3094.867	3097.698	3098.405	3099.82	3100.528
45	2687.313	2690.851	2693.681	2695.803	2698.634	2701.464	2702.172	2702.172
50	2283.296	2286.834	2289.664	2291.787	2293.91	2295.325	2296.032	2297.447
55	1882.11	1884.232	1886.355	1887.77	1889.185	1891.308	1892.016	1894.138
60	1490.829	1492.244	1493.659	1495.074	1497.197	1497.905	1499.32	1501.442
65	1118.652	1120.067	1120.775	1122.19	1123.605	1125.02	1125.728	1127.143
70	777.6084	779.0235	781.8538	781.8538	783.2689	783.9765	783.2689	783.2689
75	480.4333	483.2635	486.0937	488.2164	488.924	488.2164	487.5089	484.6786
80	242.5516	243.0468	243.3299	243.4007	243.3299	243.2591	243.2591	243.0468
85	108.9642	109.4595	109.6718	109.7426	109.7426	109.6718	109.5303	109.318
90	8.986012	9.481303	9.90584	10.04735	10.11811	10.11811	9.976596	9.764328

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	4855.984	4855.277	4855.277	4855.277	4855.277	4856.692	4857.399	4858.814
5	4826.974	4826.267	4826.974	4827.682	4829.097	4829.805	4830.512	4830.512
10	4737.822	4736.406	4738.529	4737.822	4739.237	4739.237	4739.237	4739.237
15	4591.357	4590.649	4592.064	4592.064	4592.064	4592.064	4590.649	4589.942
20	4386.872	4386.165	4386.872	4386.872	4386.165	4384.75	4383.334	4381.919
25	4130.735	4131.443	4128.613	4127.905	4126.49	4125.075	4122.245	4119.415
30	3823.654	3822.947	3821.531	3819.409	3818.701	3817.286	3813.748	3810.211
35	3477.657	3477.657	3474.827	3474.119	3471.997	3469.167	3466.336	3462.799
40	3100.528	3099.82	3098.405	3096.282	3094.16	3091.33	3087.084	3083.546
45	2703.587	2702.879	2701.464	2700.756	2698.634	2695.803	2690.851	2686.605
50	2298.155	2297.447	2297.447	2296.032	2293.91	2291.079	2287.542	2284.004
55	1894.846	1895.553	1895.553	1894.846	1893.431	1891.308	1888.478	1883.525
60	1502.15	1502.858	1503.565	1503.565	1502.15	1500.027	1497.905	1493.659
65	1127.851	1128.558	1128.558	1128.558	1127.143	1125.728	1122.898	1119.36
70	783.2689	782.5613	780.4387	778.316	777.6084	774.7782	773.3631	771.2404
75	481.8484	479.0181	475.4803	471.9425	469.1123	466.282	464.1594	463.4518
80	242.6931	242.0563	241.4902	240.4996	239.3675	237.7402	235.8297	233.9193
85	108.8935	108.3274	107.7614	107.1246	106.2048	105.2142	103.1622	99.48293
90	9.339792	8.702988	7.853916	6.863332	6.01426	5.023676	3.750068	2.759484

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	4859.522	4859.522	4859.522	4858.814	4856.692	4856.692	4855.984	4854.569
5	4830.512	4829.097	4827.682	4826.267	4824.144	4822.021	4819.898	4817.068
10	4737.822	4736.406	4732.869	4729.331	4725.793	4722.255	4720.133	4716.595
15	4587.111	4584.281	4580.743	4576.498	4572.252	4568.007	4560.224	4556.687
20	4377.673	4373.429	4370.598	4365.645	4360.692	4355.032	4349.371	4344.418
25	4115.876	4112.338	4108.094	4102.433	4096.772	4091.82	4084.744	4079.791
30	3805.965	3801.012	3796.767	3791.106	3784.739	3778.371	3773.417	3767.049
35	3457.138	3452.893	3447.232	3442.987	3435.911	3430.251	3423.175	3416.1
40	3078.594	3072.933	3067.273	3060.905	3055.244	3048.876	3042.508	3035.432
45	2682.36	2677.407	2671.039	2664.671	2658.303	2651.935	2645.567	2639.199
50	2278.343	2271.975	2267.022	2259.947	2254.994	2247.918	2241.55	2235.89
55	1879.279	1872.911	1866.543	1862.298	1855.222	1848.854	1843.194	1836.826
60	1488.706	1483.046	1476.678	1471.017	1465.357	1459.696	1454.036	1448.375
65	1115.822	1110.869	1105.209	1100.256	1093.888	1090.35	1084.689	1079.029
70	768.4102	765.58	762.0421	759.2119	755.6741	751.4288	748.5984	743.6456
75	462.0367	461.3291	461.3291	459.914	458.4989	455.6686	452.8384	450.0081
80	230.8061	227.056	223.3767	218.9191	215.6643	211.702	208.9425	206.0415
85	97.07723	94.03472	91.77054	89.36483	87.3129	85.89778	84.27039	82.64301
90	2.264192	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	1.839656

光強數據表(八)

光強數據表(cd)

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$\gamma/C(^{\circ})$	280.0	285.0	290.0	295.0	300.0	305.0	310.0	315.0
0	4853.862	4853.154	4853.154	4853.862	4854.569	4855.277	4856.692	4858.107
5	4814.238	4813.531	4812.116	4811.408	4810.7	4812.116	4812.116	4812.116
10	4712.35	4709.52	4707.396	4706.689	4700.321	4700.321	4698.906	4697.491
15	4552.441	4548.903	4544.658	4541.828	4538.998	4537.583	4534.752	4531.922
20	4339.465	4335.22	4330.267	4326.021	4321.069	4318.946	4313.993	4311.163
25	4072.715	4067.762	4063.517	4057.149	4052.904	4046.536	4042.29	4038.045
30	3759.974	3752.898	3747.238	3742.285	3736.625	3730.964	3724.596	3718.935
35	3410.439	3403.364	3396.996	3389.92	3384.967	3378.599	3370.816	3366.57
40	3028.357	3022.696	3017.036	3010.668	3003.592	2997.224	2992.271	2986.611
45	2632.123	2625.755	2620.095	2614.434	2608.774	2602.406	2596.038	2591.792
50	2230.229	2223.861	2218.201	2214.663	2208.295	2203.342	2196.974	2190.606
55	1831.873	1826.212	1821.259	1816.306	1812.061	1807.108	1802.863	1797.202
60	1444.13	1439.885	1434.224	1429.979	1425.734	1420.78	1417.243	1412.29
65	1074.784	1069.831	1066.293	1061.34	1056.387	1052.849	1047.896	1045.066
70	738.6927	733.7397	727.3717	723.1263	718.1734	711.8054	706.8524	704.0222
75	445.0552	440.1023	435.857	429.4889	425.9511	419.5831	414.6302	411.0923
80	203.9895	201.7961	200.2395	199.1781	198.2583	197.48	196.5602	195.2866
85	80.52032	78.46841	77.05328	75.70892	74.71834	74.43531	74.50607	75.35514
90	1.981168	2.051924	2.051924	2.051924	1.981168	2.051924	1.981168	1.981168



光強數據表(九)

光強數據表(cd)

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$\gamma/C(^{\circ})$	320.0	325.0	330.0	335.0	340.0	345.0	350.0	355.0
0	4858.814	4860.229	4860.937	4860.937	4860.937	4860.229	4859.522	4858.814
5	4812.116	4812.116	4805.04	4805.04	4802.917	4801.502	4799.379	4797.964
10	4696.783	4696.076	4693.953	4692.538	4689.708	4687.585	4686.17	4683.339
15	4531.214	4528.384	4526.261	4523.431	4519.893	4517.063	4514.94	4512.11
20	4307.625	4304.795	4301.965	4299.135	4294.889	4292.767	4289.937	4287.813
25	4034.507	4030.969	4026.724	4023.894	4019.648	4017.526	4013.988	4011.158
30	3713.982	3710.445	3705.492	3701.246	3698.416	3695.586	3692.048	3689.218
35	3360.91	3355.957	3350.297	3346.051	3341.806	3338.268	3335.438	3333.315
40	2980.243	2974.582	2969.629	2964.677	2960.431	2956.186	2951.94	2949.818
45	2585.424	2579.056	2574.103	2569.858	2564.198	2560.66	2555.707	2553.584
50	2186.36	2180.7	2174.332	2170.086	2165.134	2161.596	2158.058	2155.228
55	1791.542	1787.297	1782.344	1777.391	1771.73	1767.485	1765.362	1762.532
60	1407.337	1402.384	1398.139	1394.601	1389.648	1385.402	1383.28	1381.157
65	1040.821	1037.99	1033.038	1030.915	1027.377	1024.547	1022.424	1021.009
70	700.4844	697.6542	695.5315	694.1163	693.4088	692.7012	691.9937	691.2861
75	408.2621	405.4319	404.0168	402.6017	401.1865	401.1865	399.7714	399.7714
80	193.4469	191.1827	189.8383	187.9279	186.5128	185.0269	184.0364	183.5411
85	76.20421	76.13346	75.00136	74.15229	73.30322	72.5249	71.95885	71.60507
90	1.981168	1.981168	1.981168	1.981168	1.981168	1.981168	1.910412	1.910412

光強數據表(十)

光強數據表(cd)

$\gamma/C(^{\circ})$	360.0
0	4850.324
5	4796.549
10	4681.217
15	4510.695
20	4284.983
25	4009.035
30	3687.095
35	3329.777
40	2948.402
45	2551.461
50	2153.105
55	1760.409
60	1379.034
65	1019.594
70	690.5786
75	399.0638
80	183.1165
85	71.39281
90	1.910412

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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 π)	浙大三色 SPR-3000
8	1040-30	測光標準燈 110V/100W	浙大三色(S13100250)
9	990-23	積分球(2 π)	浙大三色
10	103T-13	數字型溫濕度計	TANDD(TR-72UI/F80417A2)

測試人員：鄭堯元

- 以下空白 -