



**71754**  
**1X4 LED Panel Light**  
**DLC 4.0 Premium**



**RoHS**

**0-10V Dimmable**



QPL ID #  
PGJ76Q9U

Model:		71754
OVERALL LAMP PARAMETERS	Input Voltage	120-277 VAC 60HZ
	Input Current	0.33A Max @ 120V; 0.15A Max @ 240V
	Input Power	40W
	Power Factor	PF ≥0.95
	Luminance	5,053 LM
	Luminous Efficiency	128 LM/W
	CRI	>80
	Beam Angle	112°
	Main Structure	Aluminium Frame + Polystyrene Lens
LED DRIVER	Output Voltage	12-24 VDC
	Output Current	0.54A
	Driver Efficiency	88%
	Driver Brand	Letron
LED	LED Manufacturer	Jufei Electronics
	LED Type	2835 SMD
	LED Quantity	238 PCS
	LED Efficacy	130 LM/W
	Color Temperature	4000K
Photocell	-	N/A
LIFESPAN & ENVIRONMENT	Lifespan	50,000+ Hrs.
	Warranty	5 Years
	IP Rating	IP21 Dry Locations
	Operating Temperature	-20℃---50℃
	Storage Temperature.Humidity	-40℃---80℃ , 10--90% RH
SAFETY&EMC	Safety Norms	UL1598, UL8750, EN60598, EN61347-2-13, EN62031, EN62471
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	25A 100mΩ
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pls refer to attached dimension drawing
	Net Weight	0.6KG
	Gross Weight	0.8KG
	Q'ty / Carton纸箱	4 PCS
	Volume	0.52Cbm/carton
	Housing Color	White

[www.morrisproducts.com](http://www.morrisproducts.com)



Shenzhen Belling Efficiency Testing Lab



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**Test report of**

**IES LM-79-08**

**Approved Method: Electrical and Photometric**

**Measurements of Solid-State Lighting Products**

**Applicant:**

Morris Products Inc.

**Address:**

53 Carey Rd. Queensbury, NY 12804

**For Product:**

1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces

**Model No.:**

71753, 71754, 71755

**Test laboratory: Shenzhen Belling Efficiency Testing Lab., 1/F., Building 1, 1F, No.1 building, Meibaohe industrial park, Dalang street, Shenzhen, Guangdong Prov.518101, China.**

*Cherie Tang*

*Jason Zhou*

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**Complied by: Cherie Tang**

**Review by: Jason Zhou**

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**Project Engineer**

**Technical Manager**

**Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Shenzhen Belling Efficiency Testing Lab. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.**



Model name	CCT(K)	Total Luminous(lm)	Power(W)	Luminous Efficacy(lm/W)
71753	3000K	4890.707	39.25	124.604
71754	4000K	5053.382 * <sup>1</sup>	39.62 * <sup>2</sup>	127.546 * <sup>3</sup>
71755	5000K	5216.056	39.99	130.434

\*1: This value is calculated and the calculation formula is as below:

$$5053.382 = (5216.056 - 4890.707) / 2 + 4890.707$$

\*2: This value is calculated and the calculation formula is as below:

$$39.62 = (39.25 + 39.99) / 2$$

\*3: This value is calculated and the calculation formula is as below:

$$127.546 = 5053.382 / 39.62$$



# 1 General

## 1.1 Product Information

<b>Manufacturer</b>	Morris Products Inc.
<b>Manufacturer Address</b>	53 Carey Rd. Queensbury, NY 12804
<b>Brand Name</b>	MORRIS
<b>Luminaire Type</b>	1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces
<b>Model Number</b>	71753, 71754, 71755
<b>Rated Inputs</b>	AC 100-277V 50/60Hz
<b>Rated Power</b>	40 W
<b>Nominal CCT</b>	3000K / 5000K
<b>Date of Receipt Samples</b>	2017-02-14

## 1.2 Standards or methods

- ANSI C78.377-2015: Specifications for the Chromaticity of Solid State Lighting Products
- ANSI C82.77-2002: Harmonic Emission Limits-Related Power Quality Requirements for Lighting Equipment
- CIE Publication No.13.3-1995: Method of Measuring and Specifying Color Rendering of Light Sources
- IESNA LM-79-08 Approved Method: Electric & Photometric Measurement of Solid-state Lighting Products



### 1.3 Equipment list

Device	Manufacture	Model No.	Serial No.	Calibration due date
Goniophotometric System	SENSING	GMS-3000	N.A	2017-09-21
AC Power Source	ALL POWER	APW-110N	992257	2017-08-27
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S13100234	2017-09-15
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2017-08-29
Integral Sphere	SENSING	SPR-600M	N.A	2017-08-27
Integral Sphere (2M)	SENSING	SD-20	N.A	2017-08-27
Digital Power Meter	YOKOGAWA	WT210	91L929742	2017-08-29
Optical Color and Electrical Measurement System	SENSING	SPR-3000	N.A	2017-08-27
Temperature/humidity/clock	VICTOR	VC230	57636	2017-09-13
Digital Anemometer	TECMAN	TD8901	026141	2017-09-13

Statement of Traceability: Shenzhen Belling Efficiency Testing Lab attests that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit (SI).



## 2 Test conducted and method

### 2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , the air flow around the sample(s) being tested did not affect the performance.

### 2.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within  $\pm 0.2$  percent under load.

### 2.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

### 2.4 Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The integrating sphere system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards.  $4\pi$  geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

### 2.5 Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The method according to IESNA LM-79-08 following chapter.



## 3 Test Result Summary

### 3.1 Integrating Sphere System

#### 3.1.1 Electrical data

Model Number	Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
71753	120.09	60	0.330	39.25	0.991
71754	120.08	60	0.336	39.99	0.991

#### 3.1.2 Additional Test

Test Item	Model	Test Voltage (V)	Frequency (Hz)	Test Result
Power factor	71753	120	60	0.991
		277	60	0.914
	1754	120	60	0.991
		277	60	0.926
Total harmonic distortion	71753	120	60	10.1%
		277	60	16.4%
	71754	120	60	11.5%
		277	60	17.4%
Off state power (W)	71753	120	60	0
	71754	277	60	0

#### 3.1.3 Photometric data

Model Number	Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)	CRI	R9
71753	4890.707	124.604	3001	82.7	7
71754	5216.056	130.434	5136	82.5	3

#### 3.1.4 Chromaticity Coordinate

Model Number	Duv	x	y	u'	v'
71753	0.0005	0.4376	0.4055	0.2504	0.5220
71754	0.0062	0.3423	0.3618	0.2057	0.4891



## 3.2 Goniophotometer System

### 3.2.1 Electrical data

Model Number	Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
KK-PS-14WW-40-LATZ	120.19	60	0.3236	38.5240	0.9907

### 3.2.2 Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	S/MH (C0/180)	S/MH (C90/270)	Zonal Lumen in 0-60°(%lm)
4760.88	123.58	1.26	1.08	77.087





## 4 Test Data

### KK-PS-14WW-40-LATZ

#### Test Condition

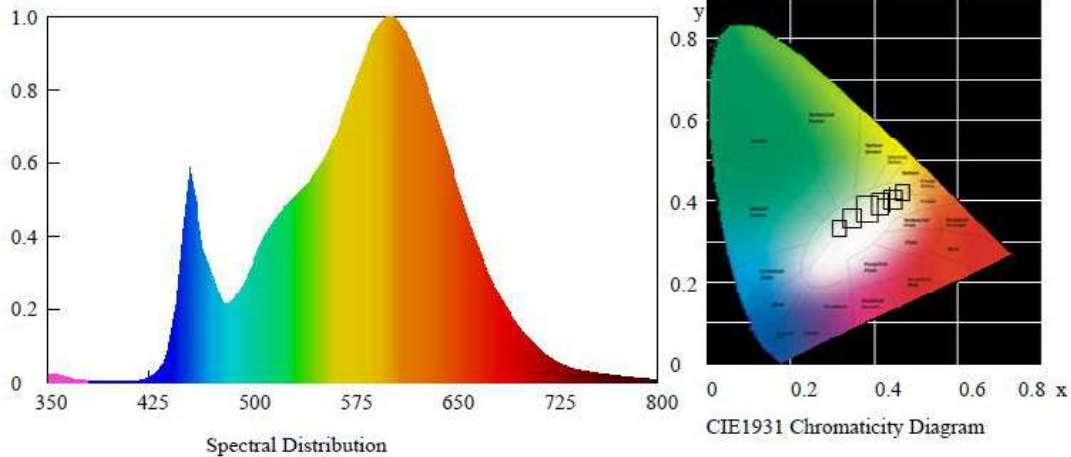
Temperature: 25°C

RH: 58%

Spectrum Range: 350-800 nm

Scan Step: 5 nm

#### Spectroradiometric Parameters

Chromaticity Coordinates:  $x=0.4376$   $y=0.4055$   $u'=0.2504$   $v'=0.5220$ 

Correlated Color Temperature: 3001 K

Dominant Wavelength: 581.0 nm(E)

Luminous Flux: 4890.707 lm

Purity: 0.5330

Chromaticity Difference: 0.0005Duv

Peak Wavelength: 705.3 nm

Color Ratio:  $K_r=45.2\%$   $K_g=47.2\%$   $K_b=7.6\%$ 

Bandwidth: 81.2nm

Radiant Flux: 15.943 W

Rendering Index:  $R_a=82.7$  $R_1=82$   $R_2=93$   $R_3=94$   $R_4=80$   $R_5=82$   $R_6=92$   $R_7=81$   $R_8=58$  $R_9=7$   $R_{10}=84$   $R_{11}=80$   $R_{12}=70$   $R_{13}=86$   $R_{14}=98$   $R_{15}=74$ 

#### Electric Parameters

Voltage: 120.09 V

Current: 0.33 A

Power Factor: 0.991

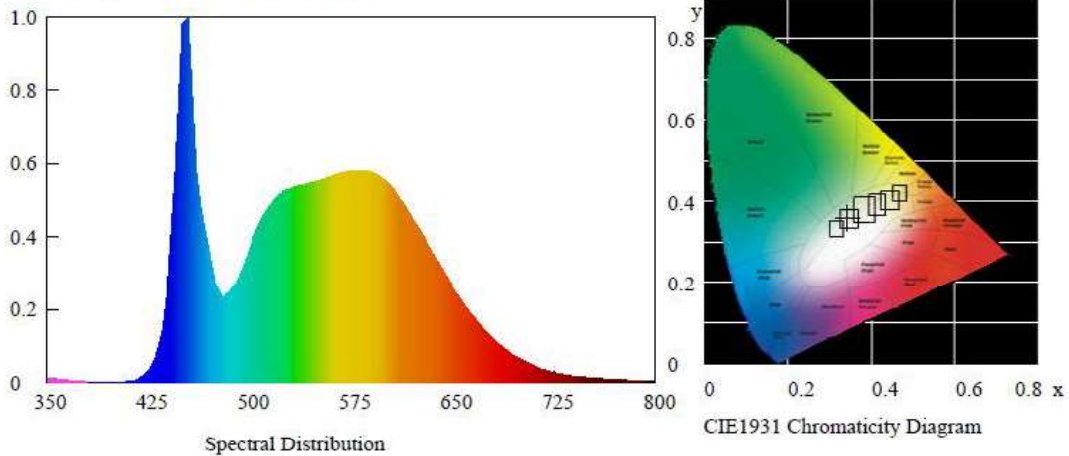
Power: 39.25 W

Luminous Efficacy: 124.604 lm/W

**KK-PS-14EW-40-LATZ****Test Condition**

Temperature: 25°C  
Spectrum Range: 350-800 nm

RH: 58%  
Scan Step: 5 nm

**Spectroradiometric Parameters**

Chromaticity Coordinates:  $x=0.3423$   $y=0.3618$   $u'=0.2057$   $v'=0.4891$

Correlated Color Temperature: 5136 K

Dominant Wavelength: 564.0 nm(E)

Luminous Flux: 5216.056 lm

Purity: 0.1119

Chromaticity Difference: 0.0062Duv

Peak Wavelength: 448.6 nm

Color Ratio:  $K_r=32.9\%$   $K_g=55.4\%$   $K_b=11.7\%$

Bandwidth: -445.3nm

Radiant Flux: 16.155 W

Rendering Index:  $R_a=82.5$

$R_1=80$   $R_2=88$   $R_3=94$   $R_4=82$   $R_5=80$   $R_6=83$   $R_7=87$   $R_8=66$

$R_9=3$   $R_{10}=72$   $R_{11}=81$   $R_{12}=57$   $R_{13}=83$   $R_{14}=97$   $R_{15}=74$

**Electric Parameters**

Voltage: 120.08 V

Current: 0.336 A

Power Factor: 0.991

Power: 39.99 W

Luminous Efficacy: 130.434 lm/W

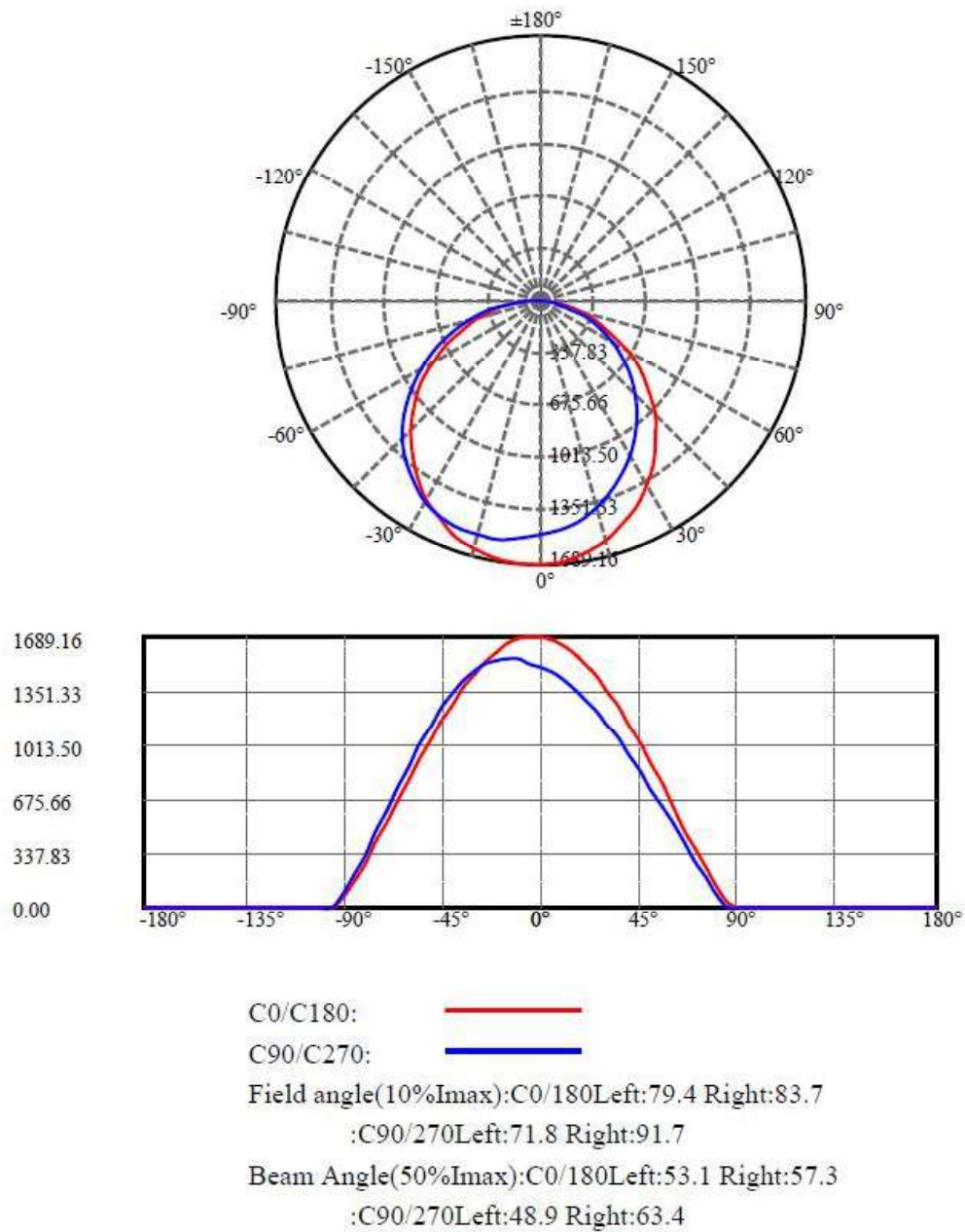
**Zonal Flux Diagram**

Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1606.146	0.000	0	.000%	.000%
5.0	1600.792	38.345	38.345	.805%	.805%
10.0	1583.209	113.963	152.308	2.394%	3.199%
15.0	1550.766	186.072	338.38	3.908%	7.108%
20.0	1504.452	252.121	590.501	5.296%	12.403%
25.0	1445.391	309.904	900.405	6.509%	18.913%
30.0	1373.646	357.495	1257.9	7.509%	26.422%
35.0	1288.242	392.996	1650.896	8.255%	34.676%
40.0	1192.373	415.165	2066.061	8.720%	43.397%
45.0	1085.903	423.379	2489.44	8.893%	52.289%
50.0	970.018	417.187	2906.627	8.763%	61.052%
55.0	849.646	397.663	3304.289	8.353%	69.405%
60.0	723.038	365.740	3670.029	7.682%	77.087%
65.0	591.045	321.994	3992.024	6.763%	83.851%
70.0	462.658	269.410	4261.434	5.659%	89.509%
75.0	335.578	211.117	4472.551	4.434%	93.944%
80.0	211.115	148.724	4621.274	3.124%	97.068%
85.0	99.595	86.657	4707.931	1.820%	98.888%
90.0	33.721	37.963	4745.894	.797%	99.685%
95.0	0.517	9.779	4755.672	.205%	99.891%
100.0	0.426	0.256	4755.929	.005%	99.896%
105.0	0.472	0.240	4756.169	.005%	99.901%
110.0	0.578	0.272	4756.441	.006%	99.907%
115.0	0.700	0.320	4756.761	.007%	99.913%
120.0	0.791	0.359	4757.12	.008%	99.921%
125.0	0.989	0.408	4757.527	.009%	99.930%
130.0	1.049	0.440	4757.967	.009%	99.939%
135.0	1.171	0.446	4758.413	.009%	99.948%
140.0	1.262	0.448	4758.86	.009%	99.958%
145.0	1.323	0.430	4759.291	.009%	99.967%
150.0	1.399	0.400	4759.69	.008%	99.975%
155.0	1.415	0.355	4760.046	.007%	99.982%
160.0	1.415	0.298	4760.343	.006%	99.989%
165.0	1.399	0.233	4760.576	.005%	99.994%
170.0	1.414	0.167	4760.742	.004%	99.997%
175.0	1.460	0.103	4760.845	.002%	99.999%
180.0	1.491	0.035	4760.88	.001%	100.000%

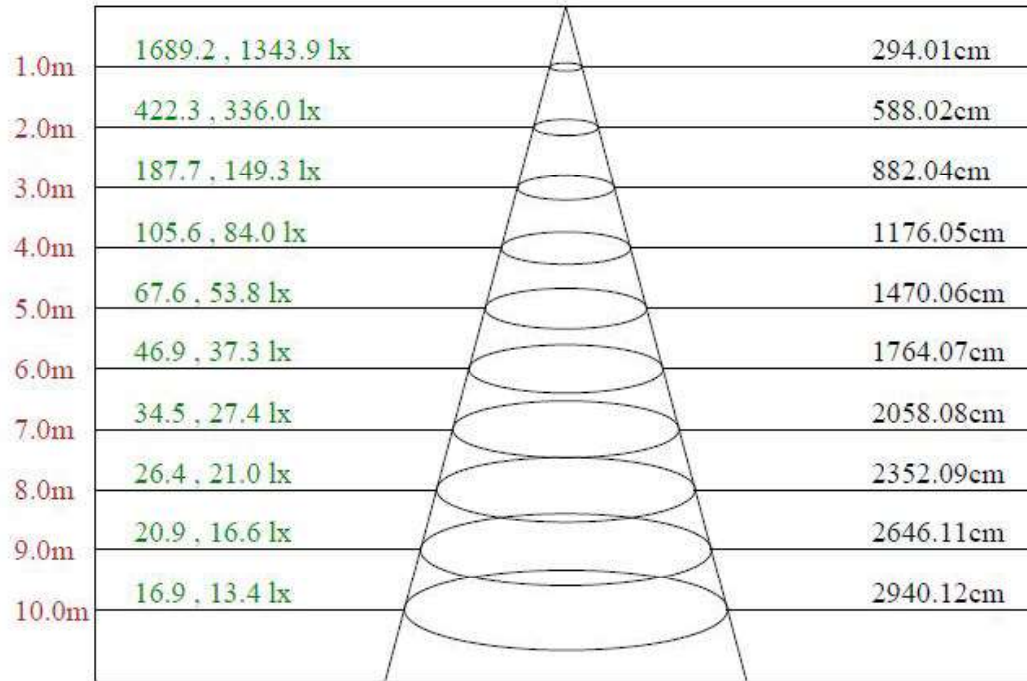
**Luminous Intensity Distribution Diagram**

Light Distribution Curve [Unit:cd]





## Lux distance Curve



Max , Ave

Beam angle of C180 plane 111.11



**Luminous Intensity Distribution Data**

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1688.68	1670.42	1638.06	1588.65	1524.41	1449.70	1358.44	1256.47	1144.28
22.5	1669.94	1641.71	1599.12	1544.36	1475.25	1394.21	1301.73	1203.42	1094.88
45.0	1651.44	1612.50	1570.65	1512.00	1442.88	1363.55	1273.50	1170.08	1066.16
67.5	1540.96	1514.19	1472.09	1420.01	1353.33	1278.13	1192.71	1097.07	999.72
90.0	1496.66	1465.03	1426.33	1368.41	1301.25	1227.51	1143.55	1054.72	958.35
112.5	1540.71	1508.10	1461.13	1402.00	1335.56	1254.03	1173.97	1081.25	981.47
135.0	1627.11	1594.50	1547.77	1489.36	1422.44	1341.64	1253.30	1154.99	1051.32
157.5	1633.68	1607.64	1568.94	1514.67	1447.75	1367.93	1281.29	1182.24	1075.65
180.0	1688.68	1689.16	1673.83	1642.92	1597.42	1535.36	1460.89	1374.50	1274.23
202.5	1669.94	1682.10	1679.18	1658.99	1621.75	1569.19	1502.99	1420.01	1323.64
225.0	1651.44	1674.80	1680.40	1672.61	1649.01	1608.37	1548.99	1478.90	1391.29
247.5	1540.96	1582.57	1597.90	1593.52	1583.06	1557.75	1505.91	1441.67	1361.11
270.0	1496.66	1520.27	1550.69	1551.42	1540.23	1520.51	1480.85	1414.65	1338.97
292.5	1540.71	1559.69	1577.95	1588.65	1573.81	1548.99	1508.83	1445.80	1365.25
315.0	1627.11	1646.09	1648.28	1645.11	1621.51	1580.62	1527.57	1453.83	1363.79
337.5	1633.68	1643.90	1639.03	1619.56	1581.60	1528.79	1463.81	1382.29	1287.86
360.0	1688.68	1670.42	1638.06	1588.65	1524.41	1449.70	1358.44	1256.47	1144.28

C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	1029.17	903.84	773.16	641.50	483.80	381.83	255.77	137.01	31.88
22.5	979.77	858.57	737.38	608.16	479.42	354.09	235.82	120.71	18.98
45.0	955.92	836.19	711.83	585.52	463.60	338.76	218.78	104.65	13.14
67.5	893.38	778.02	667.29	552.67	433.42	313.69	203.21	92.48	8.76
90.0	851.52	738.60	627.38	530.28	411.28	297.63	191.04	87.61	4.87
112.5	871.47	764.64	657.07	541.96	422.47	308.82	195.91	89.31	2.68
135.0	938.40	822.07	702.09	582.36	458.25	334.86	215.62	105.62	5.11
157.5	962.73	844.22	725.70	599.88	473.58	353.36	233.14	119.98	16.31
180.0	1164.96	1046.45	925.99	795.79	663.64	531.26	408.85	276.21	155.26
202.5	1218.50	1100.72	975.63	843.49	711.34	573.11	435.86	304.93	177.90
225.0	1282.99	1165.69	1041.58	904.08	761.23	614.97	477.23	330.73	196.64
247.5	1269.12	1154.26	1032.33	895.32	757.82	616.43	470.90	332.67	201.75
270.0	1244.06	1136.25	1017.00	885.59	744.93	611.08	469.20	329.51	197.61
292.5	1270.58	1160.58	1033.06	899.95	761.47	618.13	478.69	337.78	203.45
315.0	1259.63	1143.06	1018.71	883.15	741.76	601.83	457.76	318.56	192.25
337.5	1182.24	1067.13	948.13	818.91	688.71	552.67	421.50	290.09	166.95
360.0	1029.17	903.84	773.16	641.50	483.80	381.83	255.77	137.01	31.88

C/ $\gamma$ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.49	0.49	0.49	0.49	0.73	0.97	0.97	1.22	1.22
22.5	0.49	0.49	0.49	0.73	0.73	0.97	0.97	1.22	1.22
45.0	0.49	0.49	0.49	0.73	0.73	0.97	0.97	1.22	1.22
67.5	0.49	0.49	0.49	0.49	0.73	0.73	0.97	1.22	1.22
90.0	0.24	0.24	0.49	0.49	0.73	0.73	0.97	1.22	1.22
112.5	0.24	0.24	0.49	0.49	0.73	0.73	0.97	1.22	1.22
135.0	0.24	0.24	0.49	0.49	0.73	0.97	0.97	1.22	1.22
157.5	0.24	0.24	0.49	0.49	0.73	0.73	0.97	0.97	1.22
180.0	47.70	0.49	0.49	0.49	0.49	0.73	0.73	0.97	0.97
202.5	60.35	0.49	0.49	0.49	0.49	0.73	0.73	0.97	0.97
225.0	75.69	0.97	0.49	0.49	0.49	0.49	0.73	0.73	0.97
247.5	76.90	1.22	0.24	0.24	0.49	0.49	0.49	0.73	0.97
270.0	77.63	0.73	0.24	0.24	0.24	0.49	0.49	0.73	0.73
292.5	75.93	0.49	0.24	0.24	0.24	0.49	0.49	0.73	0.73
315.0	69.11	0.49	0.24	0.49	0.49	0.49	0.49	0.73	0.73
337.5	53.30	0.49	0.49	0.49	0.49	0.49	0.73	0.73	0.97
360.0	0.49	0.49	0.49	0.49	0.73	0.97	0.97	1.22	1.22



C/ $\gamma$ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.46	1.46	1.46	1.70	1.46	1.46	1.46	1.46	1.70
22.5	1.46	1.46	1.46	1.70	1.70	1.46	1.46	1.46	1.70
45.0	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
67.5	1.22	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
90.0	1.22	1.22	1.46	1.46	1.46	1.22	1.22	1.46	1.46
112.5	1.22	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
135.0	1.22	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
157.5	1.22	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
180.0	1.22	1.22	1.46	1.46	1.46	1.70	1.46	1.46	1.46
202.5	1.22	1.22	1.22	1.46	1.46	1.46	1.46	1.46	1.46
225.0	0.97	1.22	1.22	1.22	1.46	1.46	1.46	1.46	1.46
247.5	0.97	0.97	1.22	1.22	1.22	1.22	1.46	1.46	1.46
270.0	0.97	0.97	0.97	1.22	1.22	1.22	1.22	1.22	1.22
292.5	0.97	0.97	0.97	1.22	1.22	1.22	1.22	1.22	1.22
315.0	0.97	0.97	1.22	1.22	1.22	1.46	1.22	1.22	1.46
337.5	0.97	1.22	1.22	1.22	1.46	1.46	1.46	1.46	1.46
360.0	1.46	1.46	1.46	1.70	1.46	1.46	1.46	1.46	1.70

C/ $\gamma$ (°)	180.0
0.0	1.46
22.5	1.70
45.0	1.46
67.5	1.46
90.0	1.46
112.5	1.46
135.0	1.46
157.5	1.46
180.0	1.46
202.5	1.70
225.0	1.46
247.5	1.46
270.0	1.46
292.5	1.46
315.0	1.46
337.5	1.46
360.0	1.46



## Photo Document



\*\*\*\*End of test report\*\*\*\*