



Shenzhen Belling Efficiency Testing Lab Co., Ltd



Report No.: BL250523002-9

Date of issue 2025-05-27

Version 1.0

Total pages 15

**Test report of**

**IES LM-79-08**

**Approved Method: Electrical and Photometric**

**Measurements of Solid-State Lighting Products**

**Applicant:**

RAB LIGHTING INC

**Address:**

408 W 14th St, New York, NY 10014 United States

**For Product:**

Linear work light

**Model No.:**

TEMPLIN-90

**Test laboratory: Shenzhen Belling Efficiency Testing Lab Co., Ltd, 1Floor, No.1 Building, Meibaohe Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong Prov.518101 China.**

**Complied by: Sam Chen**

**Review by: Jason Zhou**



**Project Engineer**

**Technical Manager**

**Note: The test data was only valid for the test sample(s). 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 Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.**



# 1 General

## 1.1 Product Information

<b>Manufacturer</b>	RAB LIGHTING INC
<b>Manufacturer Address</b>	408 W 14th St, New York, NY 10014 United States
<b>Brand Name</b>	RAB
<b>Luminaire Type</b>	Linear work light
<b>Model Number</b>	TEMPLIN-90
<b>Rated Inputs</b>	AC 120-277V, 50/60Hz
<b>Rated Power</b>	90W
<b>Nominal CCT</b>	5000K
<b>Date of Receipt Samples</b>	2025-04-24
<b>Date of test</b>	2025-04-25 to 2025-04-29
<b>Burning Time Before Test</b>	0hour(For New Products)

## 1.2 Standards or methods

- ANSI C78.377-2017:Specifications for the Chromaticity of Solid State Lighting Products
- ANSI C82.77-10:2014:Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Solid State
- 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	M101758514120 011	2026-04-08
AC Power Source	ALL POWER	ALL POWER	970780	2026-04-16
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S13100188	2026-04-15
Total Luminous Flux Standard Lamp	OSRAM	12V/20W	LSD12201737	2026-04-15
Total Spectral Radiant Flux Standard Lamp	Everfine	D204	M133806CA141 1205	2026-04-15
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2026-04-16
Thermostatic stabilized photometric sphere	SENSING	SPR-600M	N.A	2026-04-08
Plant spectral photosynthetically radiometer	Everfine	SP-20	P612946CF1411 115	2026-04-08
Digital Power Meter	YOKOGAWA	WT210	91L929742	2026-04-16
Spectral radiometer	SENSING	SPR-3000	S1101108	2026-04-08
Environment Measurer	XUYAO	HS-1	N/A	2026-04-16
Environment Measurer	XUYAO	HS-1	N/A	2026-04-16
Stop watch	KISLO	K610	N/A	2026-04-10
Digital Anemometer	TECMAN	TD8901	026141	2025-09-05

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

### 1.4 Description

- Declaration: RAB LIGHTING INC declare that their product with model TEMPLIN-90 are the same to the product in the report BL250424001-9 and is authorized by original applicant to use their test data.
- Note: All the data in previous report BL250424001-9 is shared in report.



## 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.

Integrating Sphere Uncertainty: The uncertainty of the light output (luminous flux) measurements is  $U=1.8\%$  ( $K=2$ ), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is  $U=20\text{K}$  ( $K=2$ ), at the 95% confidence level. The uncertainty of the CRI is  $U=1.8(K=2)$ , at the 95% confidence level. The uncertainty of power meter AC current  $U=0.18\%$  of rdg, AC Voltage  $U=0.16\%$  of rdg, Power  $U=0.20\%$  ( $K=2$ ), at the 95% confidence level.



## 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.

Goniophotometer Uncertainty: The uncertainty of the luminous intensity is  $U=1.6\%$  ( $K=2$ ), at the 95% confidence level.



### 3 Test Result Summary

#### 3.1 Integrating Sphere System (Total operating time for integrating sphere test: 1.0 hour)

##### 3.1.1 Model Number: TEMPLIN-90

##### Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.11	60	0.720	85.67	0.990

##### Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)
10314.67	120.4	4961

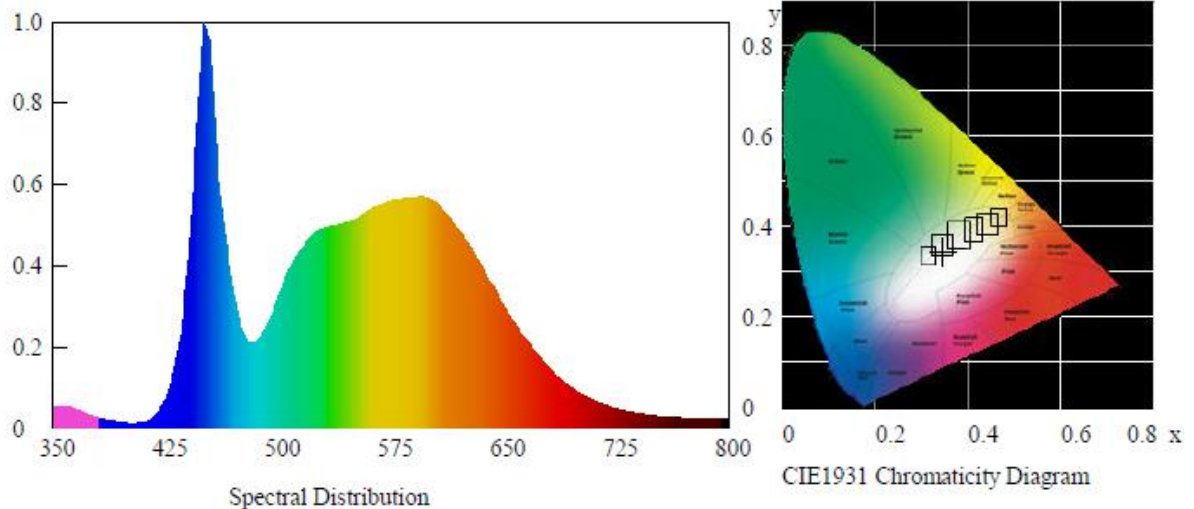
##### Chromaticity Coordinate

Duv	x	y	u'	v'
-0.00357	0.3455	0.3449	0.2143	0.4814

##### Color Rendering

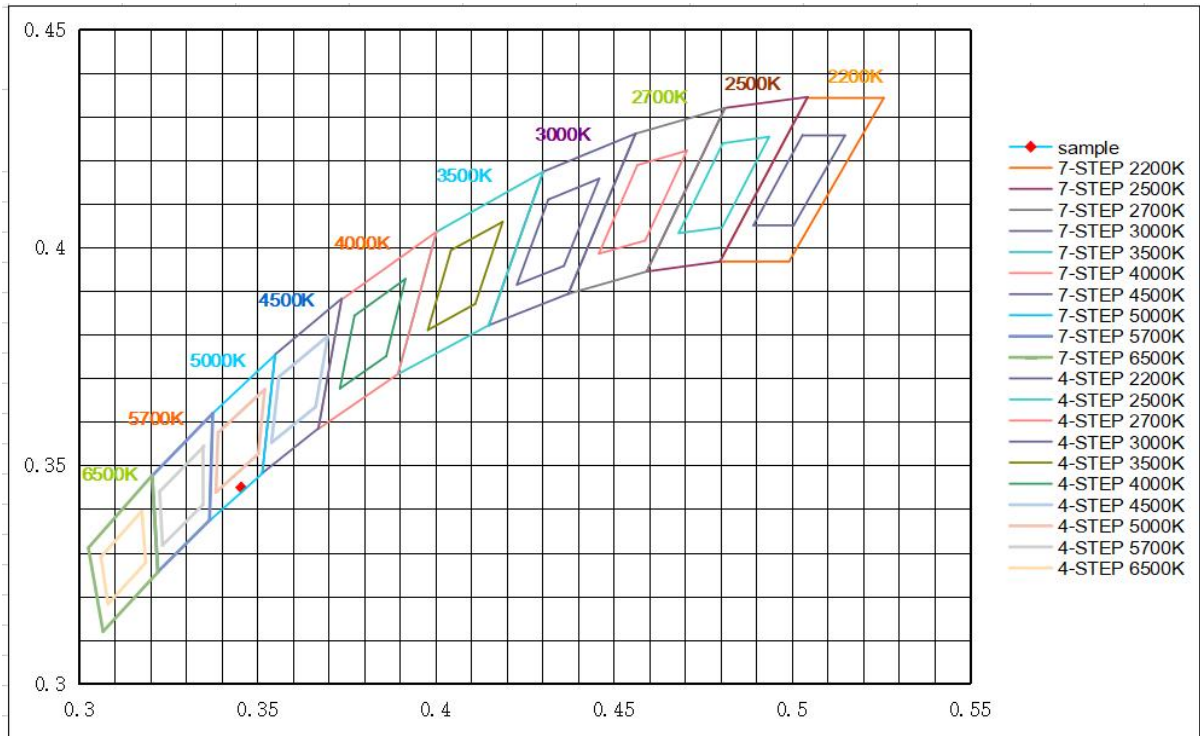
CRI	R9	Rf	Rg	Rcs,h1(%)
86.6	32	85	99	-10

##### Spectral Distribution





### 7/4 Step Quadrangle

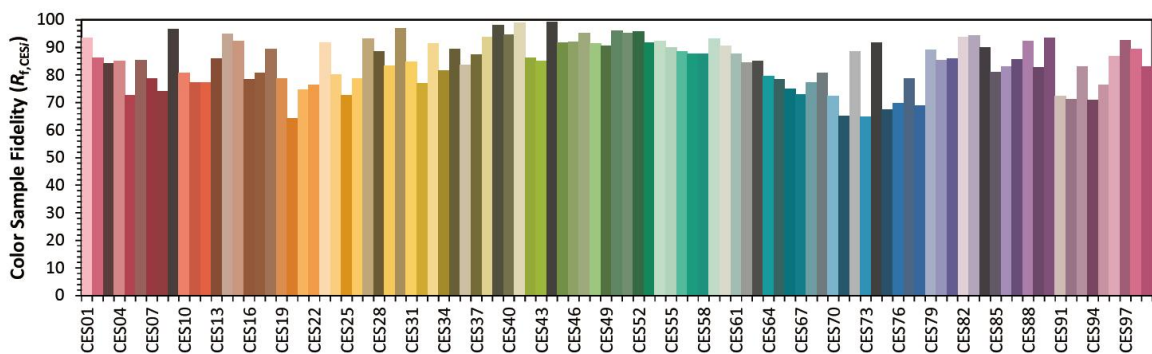
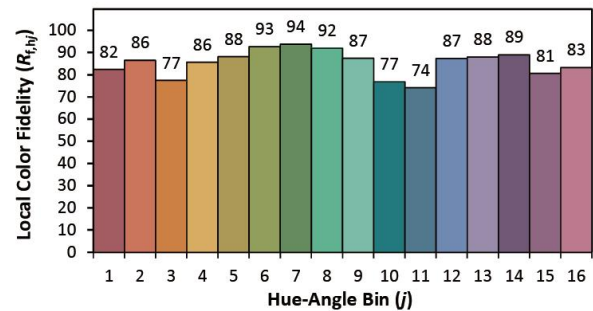
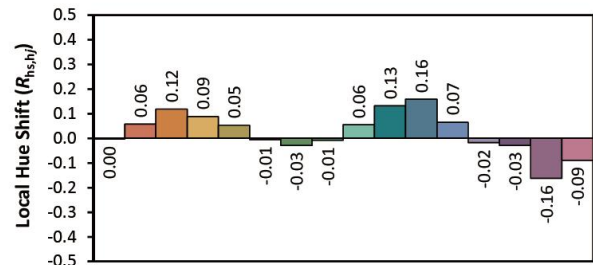
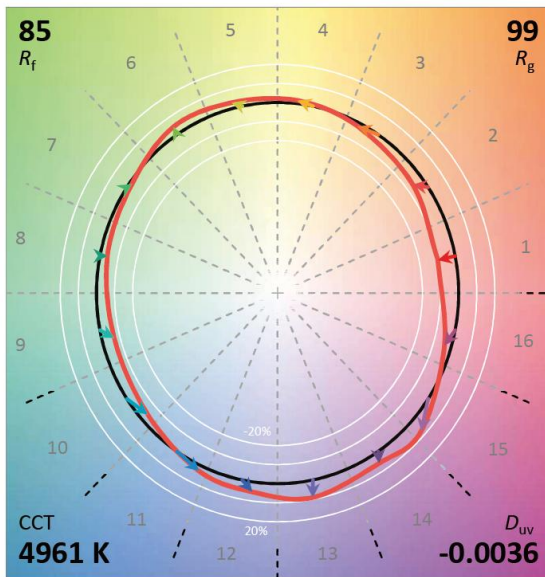
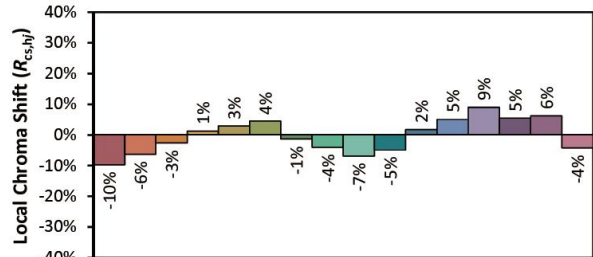
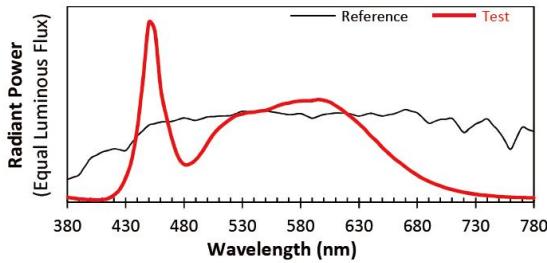




### ANSI/IES TM-30-18 Color Rendition Report

Source: BL250523002-9  
 Date: 2025-05-27

Manufacturer: RAB LIGHTING INC  
 Model: TEMPLIN-90



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.3455  
 $y$  0.3449  
 $u'$  0.2143  
 $v'$  0.4814

CIE 13.3-1995 (CRI)	
$R_a$	87
$R_g$	31

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



### 3.2 Goniophotometer System (Total operating time for luminous intensity distribution: 1.0 hour)

#### 3.2.1 Model Number: TEMPLIN-90

##### Electrical data

Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
120.19	60	0.7190	85.55	0.9903

##### Photometric data

Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
10320.42	120.64	68.43	92.69



## Zonal Flux Diagram

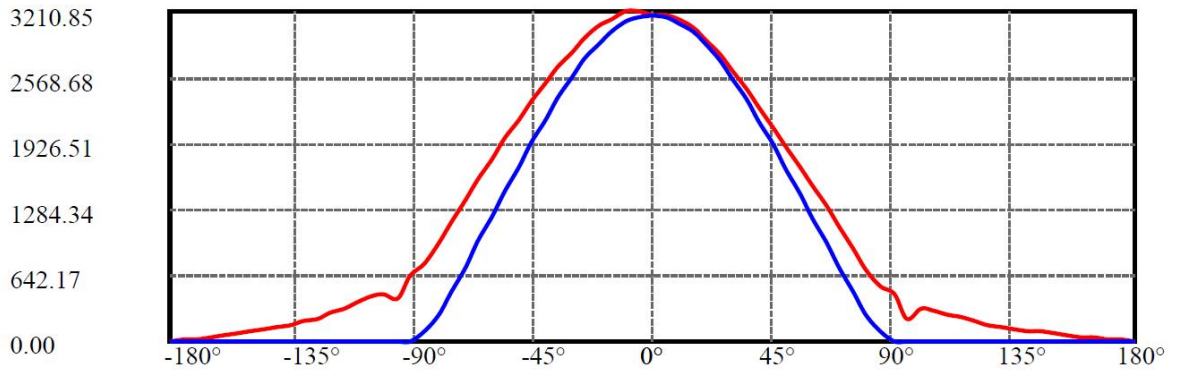
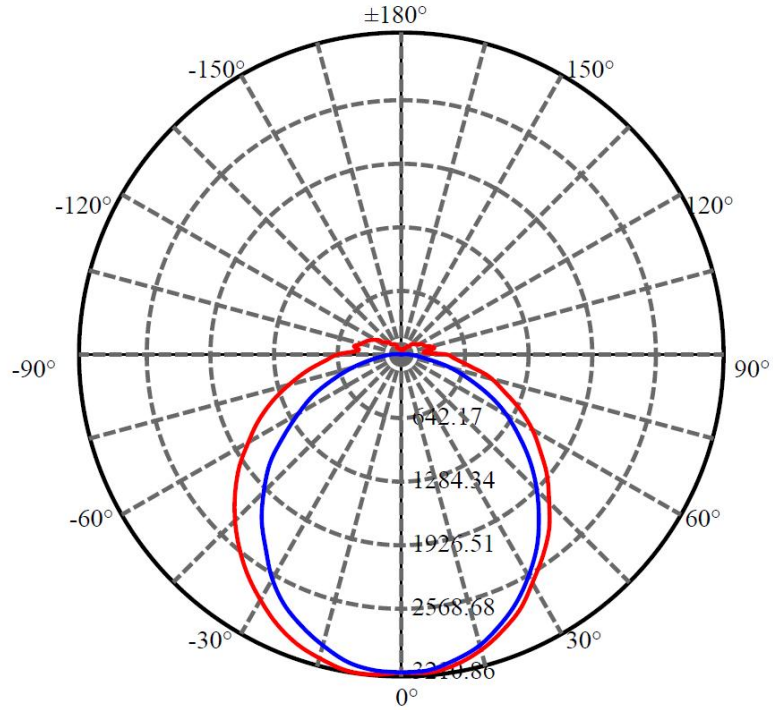
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3178.359	0.000	0	0.00%	0.00%
5.0	3167.546	75.863	75.863	0.00%	0.74%
10.0	3125.589	225.125	300.989	0.00%	2.92%
15.0	3046.075	366.099	667.088	0.00%	6.46%
20.0	2936.242	493.027	1160.115	0.00%	11.24%
25.0	2799.871	601.612	1761.727	0.00%	17.07%
30.0	2639.331	688.336	2450.063	0.00%	23.74%
35.0	2459.190	750.793	3200.855	0.00%	31.01%
40.0	2269.101	788.880	3989.735	0.00%	38.66%
45.0	2068.018	803.053	4792.788	0.00%	46.44%
50.0	1858.363	793.383	5586.171	0.00%	54.13%
55.0	1649.211	762.663	6348.834	0.00%	61.52%
60.0	1435.732	713.076	7061.91	0.00%	68.43%
65.0	1218.385	645.221	7707.13	0.00%	74.68%
70.0	999.477	561.577	8268.707	0.00%	80.12%
75.0	783.840	466.130	8734.838	0.00%	84.64%
80.0	579.854	364.886	9099.724	0.00%	88.17%
85.0	409.827	268.920	9368.644	0.00%	90.78%
90.0	312.427	197.759	9566.403	0.00%	92.69%
95.0	165.140	130.762	9697.164	0.00%	93.96%
100.0	169.372	90.895	9788.059	0.00%	94.84%
105.0	168.292	90.349	9878.409	0.00%	95.72%
110.0	154.902	84.478	9962.886	0.00%	96.54%
115.0	136.379	73.754	10036.641	0.00%	97.25%
120.0	118.570	61.978	10098.619	0.00%	97.85%
125.0	104.091	51.467	10150.086	0.00%	98.35%
130.0	91.523	42.533	10192.619	0.00%	98.76%
135.0	80.213	34.702	10227.321	0.00%	99.10%
140.0	70.584	27.921	10255.243	0.00%	99.37%
145.0	61.149	21.979	10277.221	0.00%	99.58%
150.0	50.859	16.494	10293.715	0.00%	99.74%
155.0	40.528	11.565	10305.28	0.00%	99.85%
160.0	30.931	7.495	10312.775	0.00%	99.93%
165.0	22.132	4.373	10317.148	0.00%	99.97%
170.0	14.600	2.179	10319.327	0.00%	99.99%
175.0	9.808	0.873	10320.2	0.00%	100.00%
180.0	8.627	0.220	10320.42	0.00%	100.00%



### Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]



C0/C180: 

C90/C270: 

Field angle(10%Imax):C0/180Left:115.8 Right:101.3

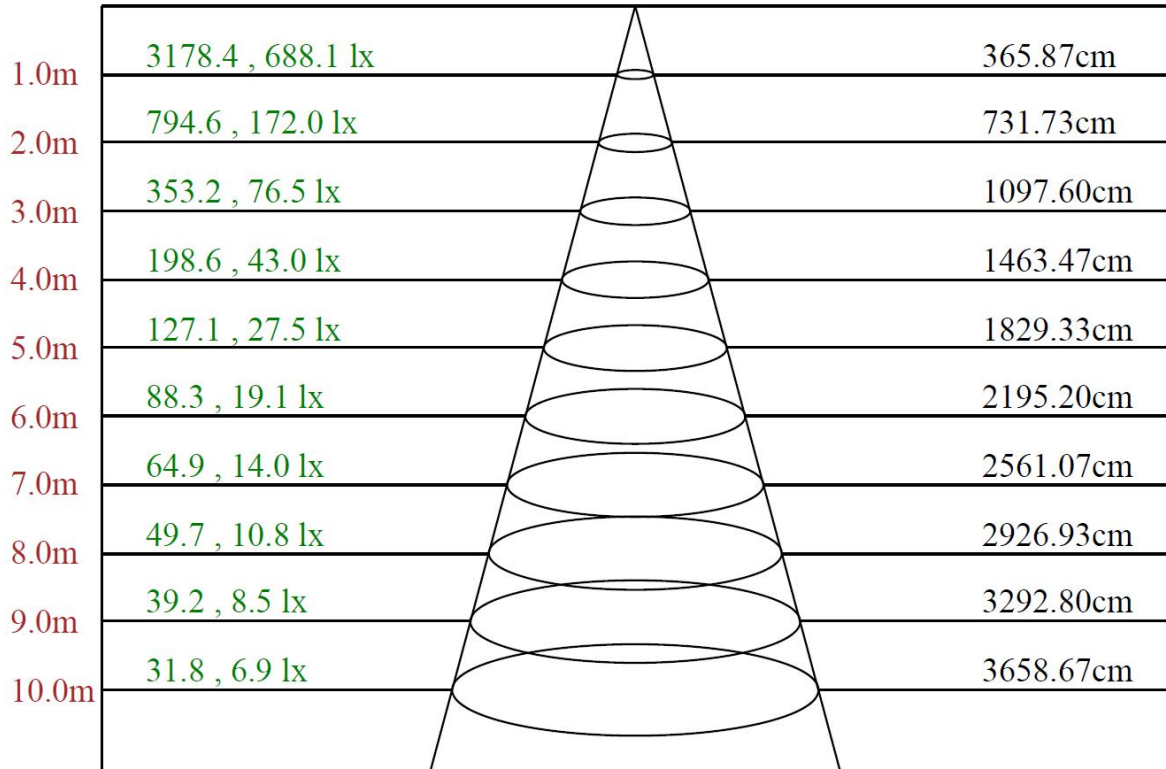
:C90/270Left:78.8 Right:78.7

Beam Angle(50%Imax):C0/180Left:64.6 Right:58.0

:C90/270Left:52.2 Right:52.0



Lux distance Curve



Max , Ave      Beam angle of C180 plane 122.67

**Luminous Intensity Distribution Data**

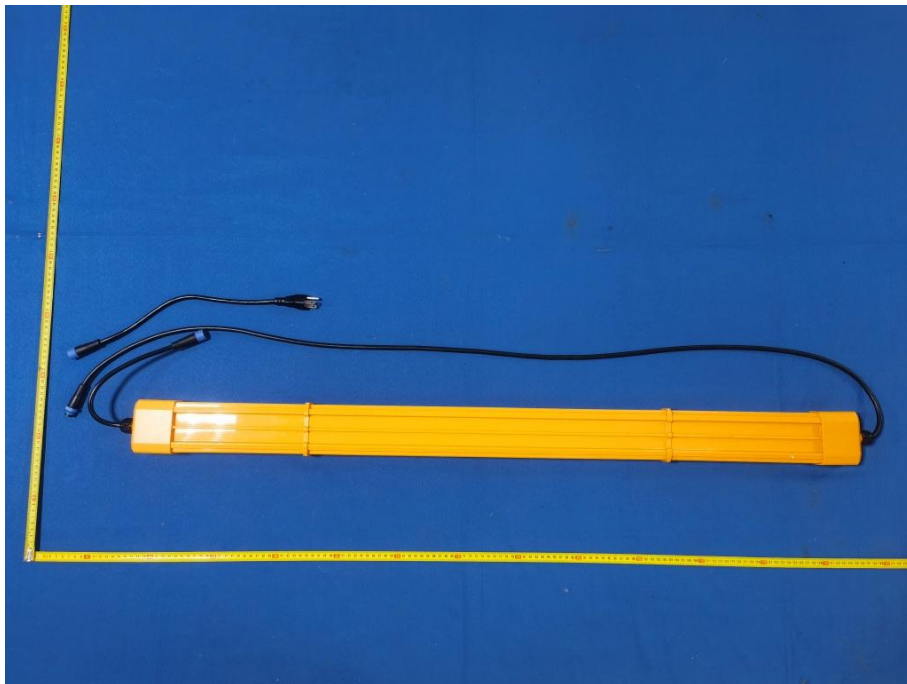
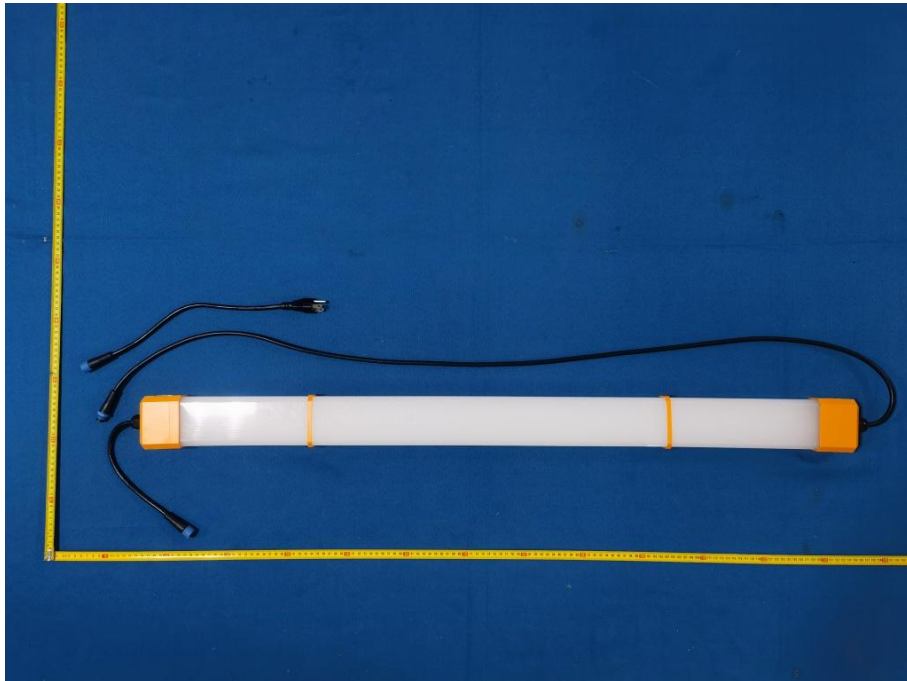
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	3178.36	3178.36	3131.66	3051.99	2933.56	2799.00	2632.91	2457.67	2281.47
22.5	3178.36	3153.60	3101.50	3006.42	2894.75	2753.41	2586.84	2408.12	2229.17
45.0	3178.36	3149.53	3091.87	2999.80	2879.12	2730.79	2565.94	2379.00	2177.42
67.5	3178.36	3148.40	3083.99	2986.79	2860.34	2698.73	2525.32	2334.70	2126.61
90.0	3178.36	3159.04	3099.73	3008.88	2882.49	2728.78	2553.31	2355.17	2141.27
112.5	3178.36	3164.69	3116.53	3031.17	2914.22	2773.08	2600.80	2408.13	2213.90
135.0	3178.36	3171.32	3132.00	3063.14	2960.20	2829.75	2675.45	2505.69	2318.21
157.5	3178.36	3204.96	3177.19	3117.46	3032.29	2919.12	2770.94	2612.27	2437.50
180.0	3178.36	3210.86	3202.19	3136.48	3063.06	2956.18	2816.57	2662.51	2505.09
202.5	3178.36	3160.14	3167.85	3116.22	3024.17	2915.31	2788.22	2624.22	2453.21
225.0	3178.36	3179.99	3149.53	3085.82	2990.49	2865.41	2724.97	2553.85	2375.75
247.5	3178.36	3171.99	3131.41	3055.92	2946.92	2813.39	2649.66	2466.82	2276.66
270.0	3178.36	3160.59	3109.06	3016.21	2891.82	2743.66	2564.86	2367.17	2152.37
292.5	3178.36	3158.20	3101.07	3009.21	2890.03	2737.01	2561.37	2370.27	2159.90
315.0	3178.36	3153.13	3101.78	3014.06	2895.20	2755.44	2587.28	2401.16	2202.76
337.5	3178.36	3155.96	3112.09	3037.65	2921.22	2778.88	2624.87	2440.30	2254.32
360.0	3178.36	3178.36	3131.66	3051.99	2933.56	2799.00	2632.91	2457.67	2281.47
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2083.84	1892.00	1702.07	1515.76	1313.32	1108.72	903.39	703.12	538.23
22.5	2033.87	1828.99	1648.17	1457.07	1249.38	1040.06	836.35	646.89	487.79
45.0	1976.07	1765.42	1554.30	1341.10	1131.38	916.54	700.08	511.05	359.69
67.5	1907.20	1680.01	1454.70	1219.96	987.58	761.80	549.94	347.99	192.04
90.0	1921.14	1684.58	1444.24	1199.47	961.13	717.01	479.12	258.55	91.52
112.5	1989.19	1762.02	1531.27	1305.67	1071.78	842.37	630.43	422.75	251.14
135.0	2118.23	1910.06	1708.72	1499.64	1285.57	1071.95	851.52	645.85	479.96
157.5	2268.09	2073.25	1880.51	1679.60	1480.79	1270.78	1058.21	858.23	676.46
180.0	2333.94	2152.45	1978.65	1780.79	1574.50	1376.15	1159.51	951.53	758.72
202.5	2274.96	2099.98	1907.02	1710.31	1509.17	1308.02	1088.19	886.81	698.75
225.0	2179.05	1976.07	1770.53	1565.46	1349.93	1132.07	921.65	713.79	530.58
247.5	2068.34	1849.64	1622.45	1397.14	1168.29	939.45	715.08	499.21	317.08
270.0	1930.92	1695.69	1454.46	1208.35	967.57	714.13	484.67	262.77	92.40
292.5	1938.56	1710.27	1484.89	1251.23	1017.78	789.05	569.27	373.46	209.47
315.0	2000.51	1787.12	1573.73	1361.25	1151.72	938.33	729.03	531.32	374.74
337.5	2064.38	1866.27	1671.67	1478.93	1274.28	1065.21	865.00	664.33	498.65
360.0	2083.84	1892.00	1702.07	1515.76	1313.32	1108.72	903.39	703.12	538.23
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	449.41	228.92	323.52	301.13	266.71	233.25	196.90	167.54	145.87
22.5	402.52	182.22	245.77	234.55	215.40	184.79	159.56	139.24	121.95
45.0	280.64	115.09	126.02	135.78	120.21	106.02	97.89	85.80	75.80
67.5	124.33	54.50	41.99	43.65	41.99	41.99	41.52	40.34	35.62
90.0	6.00	3.55	3.78	4.67	5.11	5.78	6.66	6.89	7.11
112.5	159.74	84.46	54.44	55.34	53.10	49.06	41.45	41.67	38.09
135.0	379.06	194.76	159.99	175.89	164.30	144.31	129.08	116.13	103.17
157.5	559.79	275.34	315.71	321.31	295.88	259.48	217.48	189.71	163.81
180.0	634.04	425.58	467.70	429.43	382.73	327.37	271.04	227.23	195.46
202.5	570.96	339.91	320.29	329.17	305.81	266.56	224.51	194.60	167.04
225.0	411.77	222.04	162.52	184.61	176.47	155.31	139.97	123.69	110.67
247.5	198.65	113.24	64.64	62.52	60.87	58.75	56.15	52.14	47.89
270.0	6.22	4.22	4.67	4.89	6.00	6.44	7.33	7.33	8.00
292.5	125.91	67.66	47.72	45.48	43.69	42.79	41.22	38.76	35.85
315.0	284.98	144.53	132.26	130.44	122.94	109.99	100.22	90.90	81.81
337.5	404.85	186.21	238.94	233.81	217.24	190.17	166.14	143.51	126.24
360.0	449.41	228.92	323.52	301.13	266.71	233.25	196.90	167.54	145.87



<b>C/γ(°)</b>	<b>135.0</b>	<b>140.0</b>	<b>145.0</b>	<b>150.0</b>	<b>155.0</b>	<b>160.0</b>	<b>165.0</b>	<b>170.0</b>	<b>175.0</b>
0.0	123.97	104.95	94.12	78.95	62.59	47.42	33.94	21.66	11.80
22.5	102.09	91.58	82.70	69.15	53.97	41.82	28.50	15.42	9.35
45.0	74.17	68.36	57.43	46.97	37.20	25.34	17.67	12.09	9.53
67.5	33.03	30.43	27.37	22.18	16.75	14.16	11.09	9.67	8.73
90.0	7.55	7.55	8.00	8.00	8.00	8.44	8.44	9.11	8.66
112.5	34.73	30.69	26.21	21.06	15.91	12.77	10.31	8.74	8.29
135.0	87.04	75.45	65.90	54.77	42.27	28.41	18.18	11.59	8.64
157.5	143.04	123.44	102.20	83.77	67.67	50.87	32.90	17.50	9.33
180.0	166.81	144.19	122.52	100.14	78.23	58.25	39.48	23.83	12.04
202.5	144.84	126.15	107.00	86.67	68.45	51.63	35.51	21.49	11.45
225.0	99.28	86.73	72.77	60.68	48.13	36.50	25.81	16.28	9.53
247.5	42.70	37.75	33.27	27.84	22.65	17.93	13.92	10.15	8.73
270.0	8.22	8.66	8.44	8.89	9.11	9.33	9.11	9.11	9.33
292.5	33.38	30.02	26.88	23.52	20.39	16.58	13.67	10.75	9.41
315.0	74.99	67.49	58.40	50.00	40.68	31.82	23.63	15.91	10.68
337.5	107.57	95.90	85.17	71.17	56.47	43.64	31.97	20.30	11.43
360.0	123.97	104.95	94.12	78.95	62.59	47.42	33.94	21.66	11.80
<b>C/γ(°)</b>	<b>180.0</b>								
0.0	8.63								
22.5	8.63								
45.0	8.63								
67.5	8.63								
90.0	8.63								
112.5	8.63								
135.0	8.63								
157.5	8.63								
180.0	8.63								
202.5	8.63								
225.0	8.63								
247.5	8.63								
270.0	8.63								
292.5	8.63								
315.0	8.63								
337.5	8.63								
360.0	8.63								



## Photo Document



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