Date of issue	2021-07-08
Version	1.0
Total pages	22

Test report of
IES LM-79-08
Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Applicant:

RAB Lighting Inc

Address:

Northvale,New Jersey, 07647, USA

For Product:

LED temporary work light

Model No.:

TEMP-60-850/15CP

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.

Jarvis zhang

Jason zhou

Complied by: Jarvis zhang **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 use 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

Manufacturer	RAB Lighting Inc
Manufacturer Address	Northvale,New Jersey, 07647, USA
Brand Name	/
Luminaire Type	LED temporary work light
Model Number	TEMP-60-850/15CP
Rated Inputs	AC 100-277V 50/60Hz
Rated Power	60 W
Nominal CCT	5000K
Date of Receipt Samples	2020-10-10
Date of test	2020-10-10 to 2020-10-16
Burning Time Before Test	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	N.A	2021-04-02
AC Power Source	ALL POWER	APW-110N	992257	2021-04-02
Total Luminous Flux Standard Lamp	SENSING	110V/100W	S1510065	2021-04-08
Total Spectral Radiant Flux Standard Lamp	SENSING	12V/20W	LSD12201731	2021-04-08
Digital Power Meter	YOKOGAWA	WT310	C2QM02030V	2021-04-02
Integral Sphere	SENSING	SPR-600M	N.A	2021-04-02
Digital Power Meter	YOKOGAWA	WT210	91L929742	2021-04-02
Optical Color and Electrical Measurement System	SENSING	SPR-3000	S1101108	2021-04-02
Environment Measurer	XUYAO	HS-1	N/A	2021-04-08
Environment Measurer	XUYAO	HS-1	N/A	2021-04-08
Stop watch	KISLO	K610	N/A	2021-04-27
Digital Anemometer	TECMAN	TD8901	026141	2021-09-09

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 Report Revision:

Original report BL201015009-9 dated at 2020-10-20 was recalled and declared as invalid by Shenzhen Belling Efficiency Testing Lab Co.,Ltd. Report BL201015009-9A was issued on to replace report BL201015009-9.
The report BL201015009-9A dated at 2020-10-28 was recalled and declared as invalid by Shenzhen Belling Efficiency Testing Lab Co.,Ltd. Report BL201015009-9B was issued on to replace report BL201015009-9A.
The report BL201015009-9B dated at 2021-06-09 was recalled and declared as invalid by Shenzhen Belling Efficiency Testing Lab Co.,Ltd. Report BL201015009-9C was issued on to replace report BL201015009-9B.

Report Number	Report Data	Contents
BL201015009-9	2020-10-20	Original report
BL201015009-9A	2020-10-28	(1)Revise the Brand Name, (2)Add the TM-30
BL201015009-9B	2021-06-09	Revise the Model Number
BL201015009-9C	2021-07-08	Add the THD and PF

2 Test conducted and method

2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at 25°C ±1°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±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. 4π 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=20K (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 Electrical data

Model Number	Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
TEMP-60-850/15CP	120.03	60	0.518	61.40	0.988
	277.02	60	0.247	61.97	0.907

3.1.2 Photometric data

Model Number	Luminous Flux (lm)	Efficacy (lm/W)	CCT (K)	CRI	R9
TEMP-60-850/15CP	7110.12	115.8	4801	84.1	15
	6984.02	112.7	4788	84.0	15

3.1.3 Chromaticity Coordinate

Model Number	Duv	x	y	u'	v'
TEMP-60-850/15CP	+0.00172	0.3514	0.3601	0.2124	0.4897
	+0.00182	0.3519	0.3606	0.2125	0.49

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

3.2.1 Electrical data

Model Number	Input Voltage(V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
TEMP-60-850/15CP	120.09	60	0.510	60.49	0.9885
	277.10	60	0.240	60.40	0.9085

3.2.2 Photometric data

Input Voltage(V)	Luminous Flux (lm)	Efficacy (lm/W)	Zonal Lumen in 0-60°(%lm)	Zonal Lumen in 0-90°(%lm)
120	6991.12	115.57	21.20	51.65
277	6772.60	112.13	21.13	51.60

4 Test Data

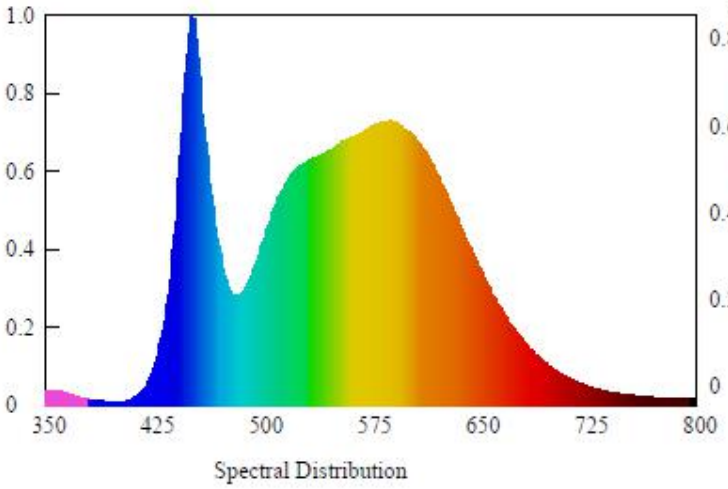
TEMP-60-850/15CP Tested at 120V

Test Condition

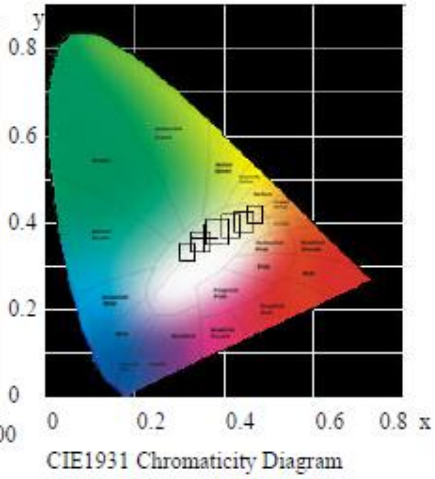
Temperature: 25°C RH: 58%

Spectrum Range: 350-800 nm Scan Step: 5 nm

Spectroradiometric Parameters



Spectral Distribution



CIE1931 Chromaticity Diagram

Chromaticity Coordinates: x=0.3514 y=0.3601 u'=0.2124 v'=0.4897

Correlated Color Temperature: 4801 K Dominant Wavelength: 572.0 nm(E)

Colour Fidelity Index: Rf=82 Gamut Index: Rg=95

Luminous Flux: 7110.12 lm Purity: 0.1345

Chromaticity Difference: +0.00172Duv Peak Wavelength: 450.0 nm

Color Ratio: Kr=34.6% Kg=54.4% Kb=11.0%

Bandwidth: 27.1nm Radiant Flux: 26.474 W

Rendering Index: Ra=84.1

R1=83	R2=89	R3=94	R4=83	R5=82	R6=84	R7=88	R8=69
R9=15	R10=74	R11=82	R12=59	R13=85	R14=96	R15=77	Re=77

Electric Parameters

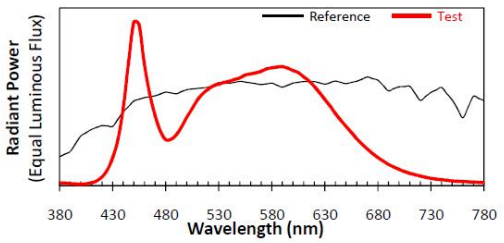
Voltage: 120.03 V Current: 0.518 A

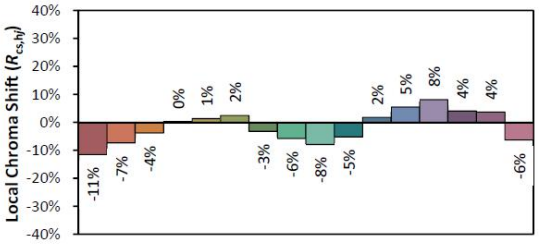
Power Factor: 0.988 Power: 61.40 W

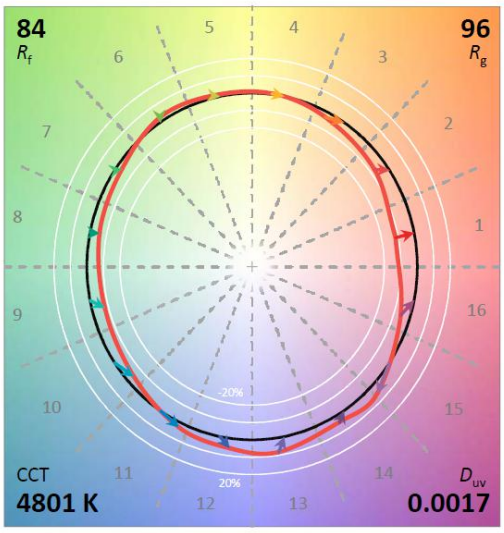
Luminous Efficacy: 115.8 lm/W

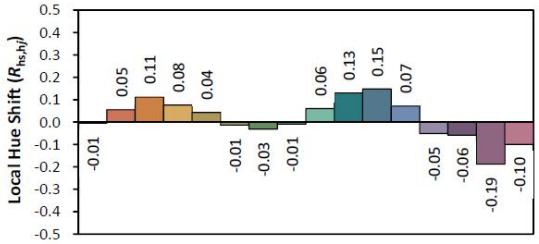
ANSI/IES TM-30-18 Color Rendition Report

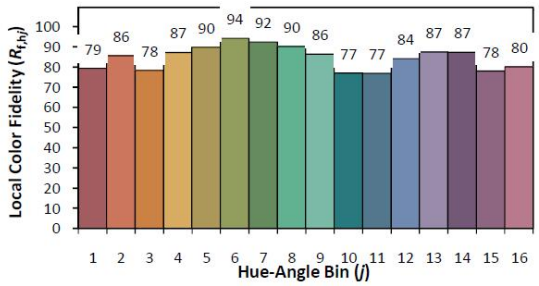
Source:	BL201015009-9B	**Manufacturer:**	RAB Lighting Inc
Date:	2020/10/22	**Model:**	TEMP-60-850/15CP

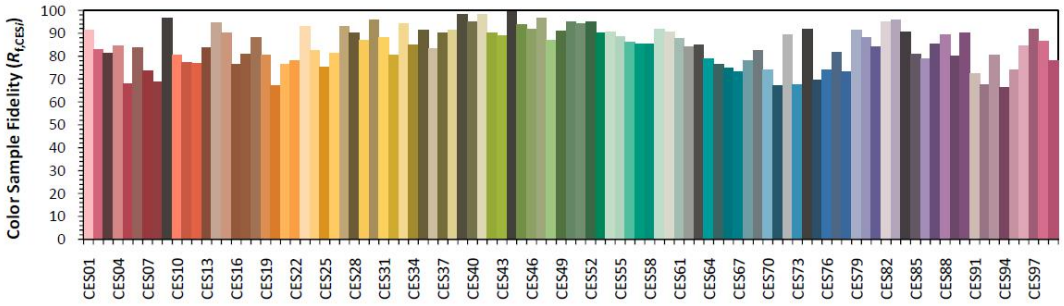












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3514
y	0.3601
u'	0.2124
v'	0.4897

CIE 13.3-1995 (CRI)

R_a	84
R_9	15

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

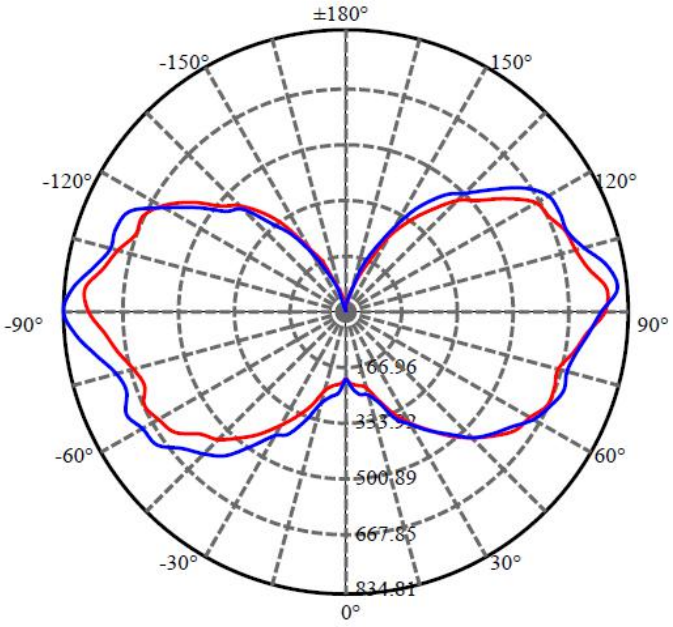
Zonal Flux Diagram

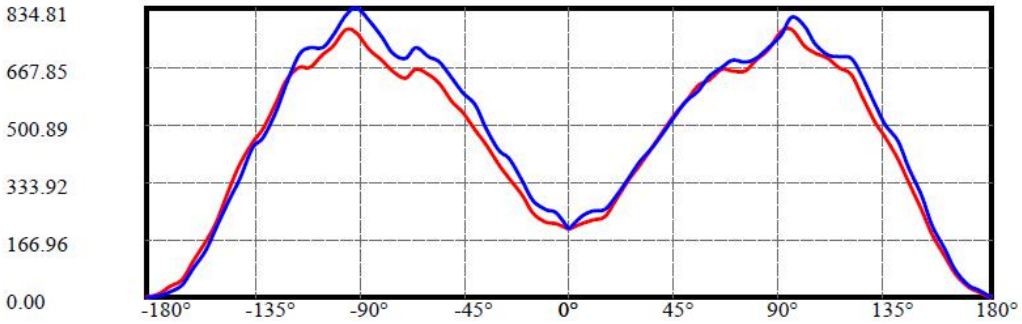
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	199.369	0.000	0	0.00%	0.00%
5.0	215.910	4.965	4.965	0.00%	0.07%
10.0	224.919	15.770	20.734	0.00%	0.30%
15.0	245.241	27.890	48.624	0.00%	0.70%
20.0	291.059	44.199	92.823	0.00%	1.33%
25.0	344.496	66.658	159.48	0.00%	2.28%
30.0	382.076	91.948	251.429	0.00%	3.60%
35.0	433.222	120.058	371.487	0.00%	5.31%
40.0	480.237	152.404	523.891	0.00%	7.49%
45.0	534.021	187.798	711.689	0.00%	10.18%
50.0	569.002	222.882	934.571	0.00%	13.37%
55.0	616.378	257.741	1192.312	0.00%	17.05%
60.0	636.558	289.613	1481.925	0.00%	21.20%
65.0	656.147	314.259	1796.184	0.00%	25.69%
70.0	648.540	330.355	2126.539	0.00%	30.42%
75.0	653.444	340.318	2466.856	0.00%	35.29%
80.0	685.555	358.279	2825.135	0.00%	40.41%
85.0	717.949	381.366	3206.501	0.00%	45.87%
90.0	760.124	404.708	3611.209	0.00%	51.65%
95.0	770.626	419.132	4030.34	0.00%	57.65%
100.0	729.120	407.517	4437.857	0.00%	63.48%
105.0	694.873	381.021	4818.878	0.00%	68.93%
110.0	677.923	358.827	5177.705	0.00%	74.06%
115.0	667.923	340.777	5518.481	0.00%	78.94%
120.0	640.277	318.026	5836.507	0.00%	83.48%
125.0	563.430	278.234	6114.741	0.00%	87.46%
130.0	498.230	230.840	6345.581	0.00%	90.77%
135.0	449.889	191.581	6537.162	0.00%	93.51%
140.0	383.672	154.341	6691.503	0.00%	95.71%
145.0	318.459	117.145	6808.648	0.00%	97.39%
150.0	236.747	81.758	6890.406	0.00%	98.56%
155.0	167.775	51.193	6941.599	0.00%	99.29%
160.0	108.470	28.973	6970.572	0.00%	99.71%
165.0	58.637	13.772	6984.344	0.00%	99.90%
170.0	29.164	5.208	6989.552	0.00%	99.98%
175.0	10.785	1.429	6990.981	0.00%	100.00%
180.0	1.090	0.142	6991.123	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:162.4 Right:164.0

:C90/270Left:159.8 Right:164.6

Beam Angle(50%Imax):C0/180Left:139.7 Right:140.9

:C90/270Left:135.8 Right:142.2

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	199.37	211.89	220.75	233.31	277.79	336.27	380.55	431.61	478.77
22.5	199.37	209.42	217.04	231.46	270.58	322.89	357.48	403.81	451.38
45.0	199.37	203.04	210.87	223.43	259.87	319.80	362.22	402.58	441.91
67.5	199.37	202.83	213.75	228.78	262.35	317.12	353.16	397.23	441.91
90.0	199.37	230.84	247.52	254.73	289.94	343.89	388.99	430.79	469.30
112.5	199.37	221.16	232.90	246.28	287.26	343.27	391.46	423.99	466.62
135.0	199.37	214.16	223.01	242.37	288.09	343.27	385.08	430.79	473.62
157.5	199.37	211.89	218.28	238.25	288.70	351.51	377.66	430.58	474.65
180.0	199.37	212.31	218.90	244.43	293.44	341.42	385.08	440.88	483.30
202.5	199.37	210.66	218.28	241.34	288.70	339.77	372.31	434.91	481.24
225.0	199.37	210.66	215.81	244.64	297.15	339.57	377.04	434.70	482.07
247.5	199.37	209.84	216.01	245.87	303.12	338.95	370.87	438.82	484.74
270.0	199.37	241.96	251.84	281.29	339.57	399.90	423.99	486.80	554.96
292.5	199.37	230.63	241.55	269.96	316.92	366.95	406.08	466.83	523.04
315.0	199.37	219.31	229.60	254.93	305.18	358.31	394.55	442.32	492.36
337.5	199.37	213.95	222.60	242.78	288.29	349.04	386.72	434.91	483.92
360.0	199.37	211.89	220.75	233.31	277.79	336.27	380.55	431.61	478.77

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	526.75	567.73	609.33	626.83	658.75	654.83	651.13	685.31	715.79
22.5	523.46	558.05	597.18	624.36	664.31	655.25	662.87	692.31	712.70
45.0	499.36	540.96	587.70	605.00	630.12	638.15	633.83	656.48	679.54
67.5	500.19	541.99	587.50	615.30	632.39	646.39	644.33	666.78	686.75
90.0	524.28	565.46	595.12	636.92	665.34	683.05	677.69	690.05	718.67
112.5	536.43	572.05	612.00	636.92	665.34	683.87	678.31	699.93	727.52
135.0	521.60	551.46	606.44	611.80	638.57	635.89	635.48	665.54	690.66
157.5	529.63	561.96	612.00	613.03	633.21	632.18	631.15	659.98	682.63
180.0	533.75	563.20	617.56	640.83	657.51	634.04	652.16	685.52	716.40
202.5	529.63	563.20	612.21	630.54	648.66	622.30	631.56	670.07	716.40
225.0	524.90	559.90	606.24	632.18	617.15	599.03	608.09	659.78	697.46
247.5	528.40	560.73	622.30	649.48	630.33	609.33	618.59	669.66	708.99
270.0	591.41	630.74	681.40	695.61	718.67	691.08	706.11	750.18	798.36
292.5	576.79	602.53	655.04	689.84	704.26	687.58	700.14	738.03	782.09
315.0	550.84	592.65	627.86	636.92	662.66	656.69	660.60	693.55	728.97
337.5	546.93	571.44	632.18	639.39	671.10	647.01	663.07	685.72	724.23
360.0	526.75	567.73	609.33	626.83	658.75	654.83	651.13	685.31	715.79

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	766.44	774.06	728.35	705.70	692.11	664.31	644.13	580.29	508.84
22.5	770.56	789.51	744.41	712.49	700.55	662.04	648.24	578.44	514.81
45.0	722.99	751.82	714.14	678.93	663.89	658.75	649.27	559.70	500.60
67.5	727.73	759.24	723.41	679.13	662.87	655.86	647.63	558.05	497.72
90.0	756.56	806.39	782.71	729.38	698.70	696.22	687.58	637.54	559.90
112.5	762.74	812.57	788.27	733.50	700.34	684.49	661.22	611.80	542.81
135.0	727.32	772.21	745.23	697.67	669.87	678.31	660.81	590.38	522.01
157.5	729.79	755.12	719.91	671.10	656.89	648.86	634.45	561.14	490.10
180.0	761.71	773.03	727.94	697.87	664.72	665.34	626.62	561.14	488.65
202.5	760.06	750.59	709.20	681.81	655.86	644.54	627.65	544.05	478.36
225.0	737.00	724.85	680.57	651.95	641.66	651.54	617.77	521.40	471.36
247.5	743.17	721.55	679.13	661.63	652.98	652.36	612.21	524.69	468.27
270.0	834.81	811.95	754.91	722.99	722.17	701.58	619.21	534.99	462.91
292.5	823.48	805.98	753.47	720.52	702.61	677.07	629.92	557.23	484.12
315.0	767.06	750.79	694.37	681.60	681.60	672.54	630.54	540.14	485.98
337.5	770.56	770.36	719.91	691.69	679.96	672.96	647.21	553.93	495.24
360.0	766.44	774.06	728.35	705.70	692.11	664.31	644.13	580.29	508.84

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	463.94	398.25	332.36	254.93	183.89	120.05	66.10	32.12	13.39
22.5	462.91	402.78	330.51	256.58	185.74	124.17	71.66	34.80	14.83
45.0	461.68	401.76	343.48	262.96	191.71	127.67	75.57	34.80	15.03
67.5	450.35	394.75	336.07	252.87	184.10	127.88	75.78	33.36	12.97
90.0	499.98	451.59	373.75	293.85	205.72	141.06	78.87	38.30	18.74
112.5	486.18	428.53	373.54	278.41	202.83	136.94	80.93	35.01	18.53
135.0	470.53	412.88	352.95	270.17	190.07	124.79	67.75	33.57	12.97
157.5	437.17	390.02	336.27	242.17	176.27	112.64	67.34	31.51	12.15
180.0	446.03	382.60	313.21	216.63	162.68	101.93	50.04	31.51	9.47
202.5	429.55	368.60	299.62	218.90	142.91	96.37	48.60	27.59	8.24
225.0	418.85	364.48	297.15	215.81	146.41	90.81	46.95	26.36	7.21
247.5	414.73	362.42	283.97	202.63	130.97	86.08	37.89	20.80	6.38
270.0	432.23	342.66	281.08	202.83	135.70	81.75	35.63	18.12	3.71
292.5	428.53	286.85	232.28	171.53	126.64	56.22	35.01	20.59	3.09
315.0	438.20	360.36	286.85	205.72	139.20	94.11	42.63	19.97	6.18
337.5	457.35	390.22	322.27	241.96	179.56	113.05	57.45	28.21	9.68
360.0	463.94	398.25	332.36	254.93	183.89	120.05	66.10	32.12	13.39

C/γ(°)	180.0
0.0	1.09
22.5	1.09
45.0	1.09
67.5	1.09
90.0	1.09
112.5	1.09
135.0	1.09
157.5	1.09
180.0	1.09
202.5	1.09
225.0	1.09
247.5	1.09
270.0	1.09
292.5	1.09
315.0	1.09
337.5	1.09
360.0	1.09

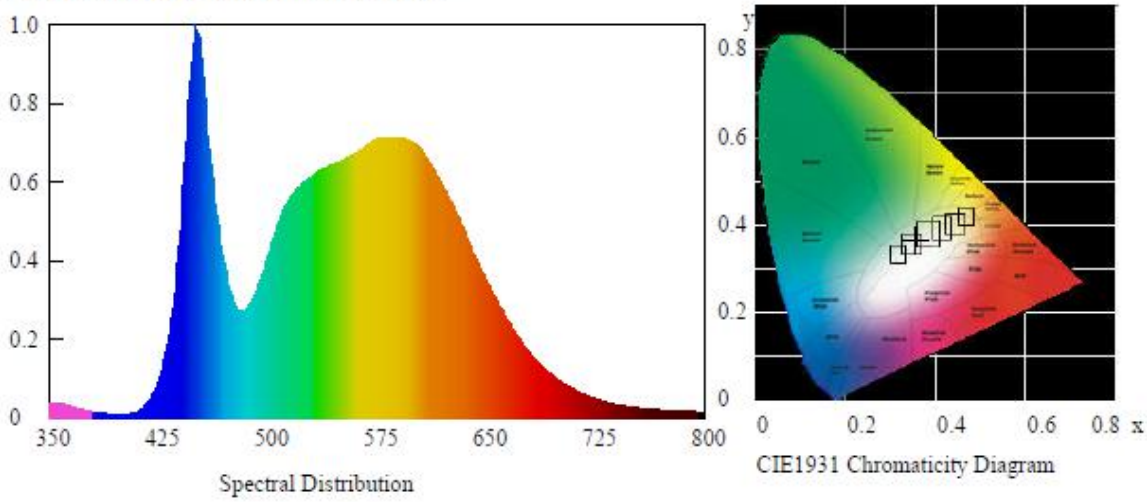
TEMP-60-850/15CP Tested at 277V

Test Condition

Temperature: 25°C RH: 58%

Spectrum Range: 350-800 nm Scan Step: 5 nm

Spectroradiometric Parameters



Chromaticity Coordinates: x=0.3519 y=0.3606 u'=0.2125 v'=0.49

Correlated Color Temperature: 4788 K Dominant Wavelength: 572.0 nm(E)

Colour Fidelity Index: Rf=82 Gamut Index: Rg=95

Luminous Flux: 6984.02 lm Purity: 0.1374

Chromaticity Difference: +0.00182Duv Peak Wavelength: 450.0 nm

Color Ratio: Kr=34.6% Kg=54.4% Kb=11.0%

Bandwidth: 28nm Radiant Flux: 26.833 W

Rendering Index: Ra=84.0

R1=82	R2=89	R3=93	R4=83	R5=82	R6=84	R7=88	R8=69
R9=15	R10=73	R11=82	R12=58	R13=85	R14=96	R15=77	Re=77

Electric Parameters

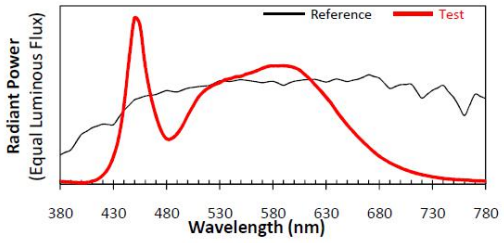
Voltage: 277.02 V Current: 0.247 A

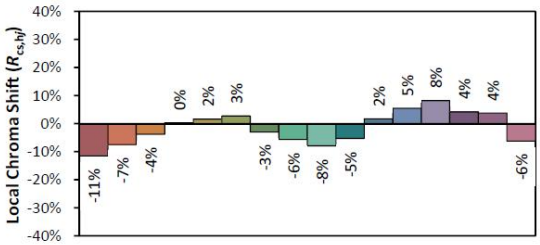
Power Factor: 0.907 Power: 61.97 W

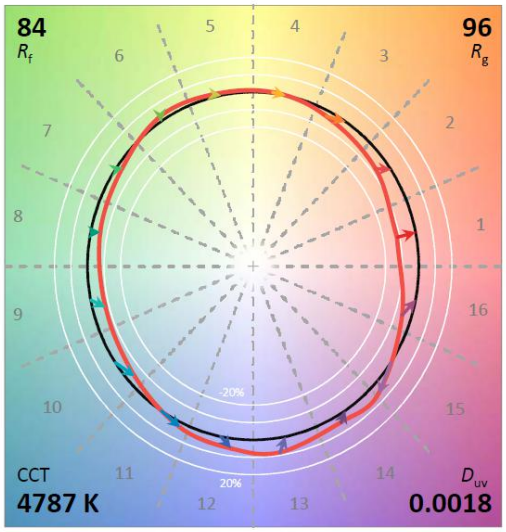
Luminous Efficacy: 112.7 lm/W

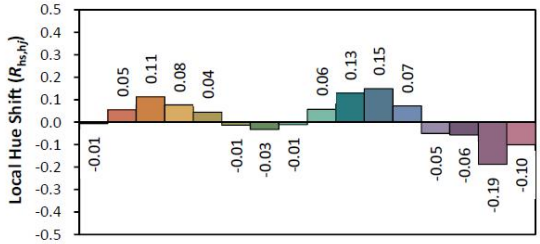
ANSI/IES TM-30-18 Color Rendition Report

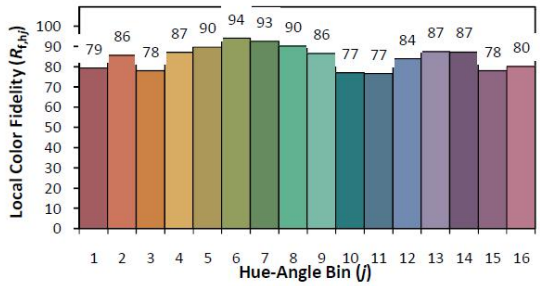
Source:	BL201015009-9B	**Manufacturer:**	RAB Lighting Inc
Date:	2020/10/22	**Model:**	TEMP-60-850/15CP

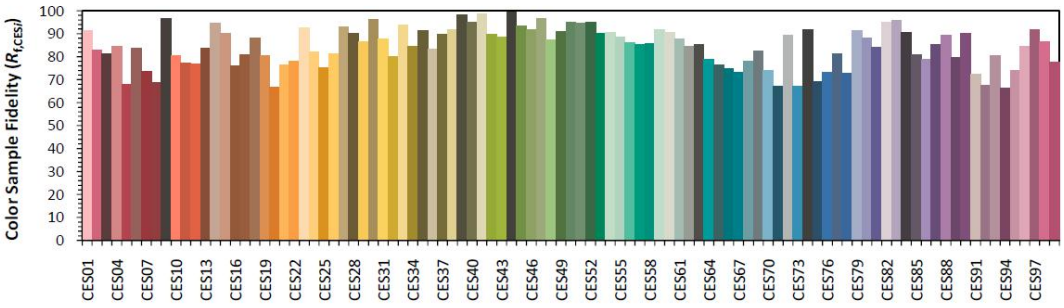












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3519
y	0.3606
u'	0.2125
v'	0.4900

CIE 13.3-1995 (CRI)

R_a	84
R_9	15

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

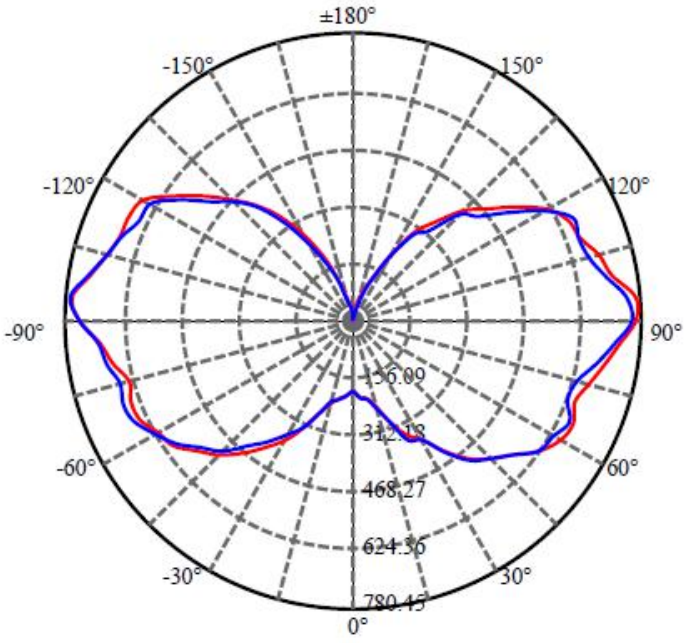
Zonal Flux Diagram

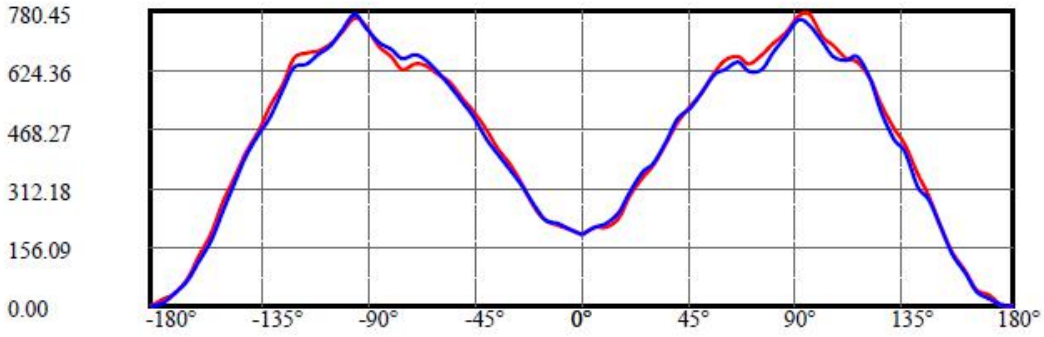
Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	191.229	0.000	0	0.00%	0.00%
5.0	205.215	4.739	4.739	0.00%	0.07%
10.0	213.310	14.972	19.711	0.00%	0.29%
15.0	235.009	26.594	46.305	0.00%	0.68%
20.0	279.540	42.406	88.711	0.00%	1.31%
25.0	330.236	63.954	152.666	0.00%	2.25%
30.0	367.417	88.289	240.954	0.00%	3.56%
35.0	418.808	115.777	356.731	0.00%	5.27%
40.0	464.754	147.416	504.147	0.00%	7.44%
45.0	516.171	181.626	685.773	0.00%	10.13%
50.0	550.096	215.455	901.228	0.00%	13.31%
55.0	597.021	249.421	1150.649	0.00%	16.99%
60.0	616.777	280.566	1431.215	0.00%	21.13%
65.0	633.817	304.022	1735.237	0.00%	25.62%
70.0	629.595	319.904	2055.141	0.00%	30.34%
75.0	633.096	330.047	2385.188	0.00%	35.22%
80.0	665.027	347.341	2732.529	0.00%	40.35%
85.0	695.568	369.706	3102.236	0.00%	45.81%
90.0	736.430	392.092	3494.328	0.00%	51.60%
95.0	748.348	406.544	3900.872	0.00%	57.60%
100.0	705.504	395.046	4295.918	0.00%	63.43%
105.0	674.023	369.123	4665.041	0.00%	68.88%
110.0	656.610	347.806	5012.847	0.00%	74.02%
115.0	649.055	330.603	5343.45	0.00%	78.90%
120.0	623.134	309.272	5652.721	0.00%	83.46%
125.0	546.068	270.258	5922.979	0.00%	87.46%
130.0	484.703	224.124	6147.103	0.00%	90.76%
135.0	435.886	186.019	6333.122	0.00%	93.51%
140.0	372.334	149.649	6482.77	0.00%	95.72%
145.0	308.305	113.559	6596.33	0.00%	97.40%
150.0	230.054	79.277	6675.607	0.00%	98.57%
155.0	160.620	49.440	6725.047	0.00%	99.30%
160.0	104.506	27.807	6752.853	0.00%	99.71%
165.0	56.050	13.232	6766.085	0.00%	99.90%
170.0	28.430	5.011	6771.097	0.00%	99.98%
175.0	9.871	1.370	6772.467	0.00%	100.00%
180.0	1.066	0.131	6772.598	0.00%	100.00%

Luminous Intensity Distribution Diagram

Light Distribution Curve [Unit:cd]





C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:164.5 Right:161.5

:C90/270Left:164.0 Right:160.8

Beam Angle(50%Imax):C0/180Left:141.9 Right:137.7

:C90/270Left:141.1 Right:136.2

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	191.23	208.81	210.66	234.34	290.15	337.92	373.34	431.82	484.12
22.5	191.23	206.95	216.01	235.16	285.00	337.30	367.57	428.94	478.56
45.0	191.23	209.63	218.07	252.67	297.56	341.42	375.40	432.03	488.04
67.5	191.23	211.28	217.66	249.78	303.12	346.36	374.37	437.59	490.92
90.0	191.23	210.25	217.66	246.49	298.79	354.60	375.81	438.00	495.45
112.5	191.23	208.81	216.01	243.19	290.15	332.98	381.78	434.70	481.45
135.0	191.23	204.28	211.69	234.96	285.82	339.36	380.75	428.73	466.83
157.5	191.23	204.89	212.51	235.37	275.11	330.30	367.37	414.93	463.74
180.0	191.23	203.04	211.89	229.19	263.99	325.36	371.07	418.85	464.15
202.5	191.23	201.39	210.66	229.40	263.17	308.68	350.69	395.78	441.91
225.0	191.23	198.30	206.95	221.57	252.26	306.83	361.60	392.08	430.17
247.5	191.23	198.72	212.10	224.87	257.61	308.06	353.57	386.52	439.23
270.0	191.23	205.51	215.81	228.16	266.26	320.21	357.89	403.40	440.88
292.5	191.23	205.10	210.25	226.93	272.85	327.21	359.34	413.08	449.12
315.0	191.23	202.63	213.13	232.49	281.91	330.51	368.40	423.58	458.38
337.5	191.23	203.86	211.89	235.58	288.91	336.68	359.75	420.91	463.12
360.0	191.23	208.81	210.66	234.34	290.15	337.92	373.34	431.82	484.12

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	530.05	562.37	615.50	648.45	659.57	640.63	661.84	692.11	722.17
22.5	526.54	560.52	605.41	625.18	636.30	619.83	633.01	670.28	713.11
45.0	528.81	570.41	620.65	642.89	625.18	614.06	629.09	676.25	718.88
67.5	526.34	559.08	617.56	634.65	607.68	600.47	618.80	666.37	707.96
90.0	524.69	562.17	612.41	625.18	645.98	620.03	627.45	670.90	711.26
112.5	534.16	554.55	610.56	635.89	660.39	640.83	647.83	681.40	719.70
135.0	518.10	553.11	589.14	593.26	620.65	612.00	615.30	645.98	678.72
157.5	531.07	545.70	600.47	613.65	639.60	615.50	627.86	658.13	690.25
180.0	512.95	545.90	592.85	609.12	634.65	642.27	626.62	660.81	688.40
202.5	510.28	548.17	578.85	611.80	633.21	641.24	638.57	666.37	690.46
225.0	479.59	519.75	566.08	587.29	609.53	617.15	609.33	626.00	661.01
247.5	482.48	530.05	564.85	609.53	605.62	638.15	623.74	642.27	669.87
270.0	499.98	537.05	583.38	613.44	650.92	661.84	654.42	676.87	695.81
292.5	520.16	545.70	594.70	611.18	642.89	656.28	651.95	682.22	700.14
315.0	520.78	549.61	609.94	606.65	644.74	636.30	638.77	669.87	687.99
337.5	512.75	557.43	589.97	600.26	624.15	616.94	624.98	654.63	673.37
360.0	530.05	562.37	615.50	648.45	659.57	640.63	661.84	692.11	722.17

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	767.27	769.12	713.11	687.16	656.69	643.92	602.12	534.16	469.09
22.5	748.12	728.97	679.34	669.87	649.69	622.09	594.09	521.60	451.38
45.0	747.09	727.52	675.43	649.69	647.21	636.51	583.38	499.16	450.56
67.5	725.26	697.05	647.01	643.30	647.83	632.18	584.61	504.10	447.47
90.0	754.71	743.59	697.67	661.63	650.30	659.98	599.65	512.75	441.91
112.5	768.71	762.94	718.67	686.34	659.78	649.89	616.94	538.28	482.07
135.0	724.44	719.91	669.25	649.27	640.63	664.72	638.57	537.46	493.80
157.5	735.76	753.47	709.20	679.13	660.60	665.54	645.57	547.96	496.89
180.0	740.29	763.36	723.61	692.11	672.96	668.63	654.42	585.85	526.54
202.5	742.97	780.45	742.56	706.31	685.72	669.87	651.95	586.26	525.10
225.0	698.08	739.67	715.99	675.22	651.54	663.89	664.92	586.67	517.48
247.5	703.02	748.73	730.20	681.60	651.75	662.25	657.72	580.50	508.01
270.0	739.06	768.92	728.35	687.37	665.34	641.04	631.77	571.44	499.57
292.5	742.56	776.74	734.11	694.17	661.42	637.74	617.56	561.55	495.66
315.0	730.00	762.53	719.49	674.40	659.98	646.60	624.36	546.93	485.57
337.5	715.58	730.61	684.08	646.80	644.33	620.03	602.53	522.43	464.15
360.0	767.27	769.12	713.11	687.16	656.69	643.92	602.12	534.16	469.09

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	424.41	350.27	290.15	201.19	139.82	90.81	44.48	28.42	5.97
22.5	409.99	346.16	273.05	200.36	127.67	84.22	40.16	25.95	4.94
45.0	405.46	346.77	269.55	202.83	128.91	81.75	39.13	23.68	3.91
67.5	401.76	336.07	237.64	184.51	119.44	71.04	27.59	17.92	3.30
90.0	406.29	314.86	282.94	202.01	136.12	85.05	37.07	18.53	5.35
112.5	420.29	308.06	249.78	179.77	131.58	81.75	43.04	22.86	4.12
135.0	437.17	363.66	296.53	206.13	140.85	97.61	41.39	19.36	7.00
157.5	449.74	399.49	337.30	257.20	182.65	120.26	66.72	27.59	13.18
180.0	467.44	408.76	345.54	270.17	193.98	129.11	71.66	33.98	18.12
202.5	463.33	415.35	349.25	267.91	193.16	133.64	77.43	36.65	19.36
225.0	469.09	418.64	364.48	286.03	205.51	136.94	79.69	39.13	20.18
247.5	458.59	414.73	362.42	279.85	207.98	142.29	88.14	39.33	19.56
270.0	454.27	399.70	328.86	245.87	176.48	115.11	67.54	32.95	11.33
292.5	450.97	386.11	324.74	240.52	167.21	104.40	63.22	30.07	6.80
315.0	438.82	383.02	318.77	239.08	170.92	102.14	56.42	30.27	7.41
337.5	416.58	365.72	301.88	217.45	147.65	95.96	53.13	28.21	7.41
360.0	424.41	350.27	290.15	201.19	139.82	90.81	44.48	28.42	5.97

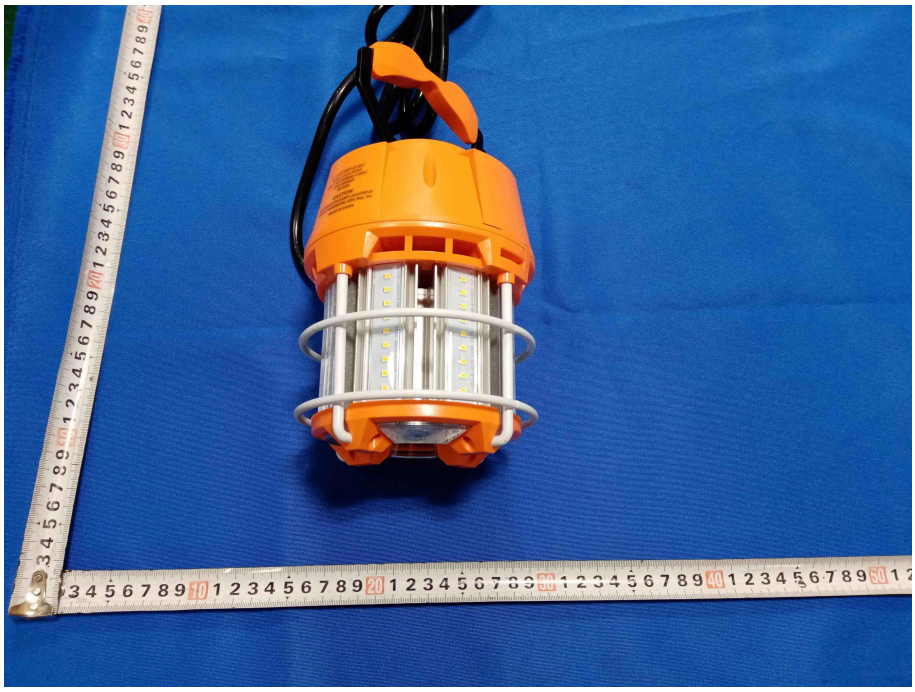
C/γ(°)	180.0
0.0	1.07
22.5	1.07
45.0	1.07
67.5	1.07
90.0	1.07
112.5	1.07
135.0	1.07
157.5	1.07
180.0	1.07
202.5	1.07
225.0	1.07
247.5	1.07
270.0	1.07
292.5	1.07
315.0	1.07
337.5	1.07
360.0	1.07

5 Additional Test

Electrical data at 120V, 277V

Model Number	Test Item	Test Voltage (V)	Frequency(Hz)	Test Result
TEMP-60-850/15CP	Power Factor	120	60	0.988
	THD	120	60	13.9%
	Power Factor	277	60	0.907
	THD	277	60	15.5%

Photo Document



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