

# Test Report

Report number: KYR240506036-TRA0

Product name: LED lamp

Size of product: P10036(BR30-14-9CCT-DIM)

Client: Technical Department

Brand name: RAB

# Statement

1. To The inspection agencies ensure the impartiality, independence and integrity of the test data responsible for the commission to provide the Confidentiality and protection of ownership test samples
2. The report ownerless inspection, review, approval and other personnel signature, altered or copied, not stamped seal of the agency test is invalid.
3. The commissioning party disagrees with the report, it is timely to our bodie.
4. The agency received the commission to send samples tested, the test report issued by the inspection data and results of sample submission only responsible forthe authenticity and representativeness of the sample by the commission responsible.
5. Pages of this report are an integral part of the test report, the user singled out some of the pages can lead to misunderstandings or used for other purposes and consequences, the agency pays the corresponding legal responsibility.
6. Test report commissioned by the release and disposal of samples: Principal shall after receiving notification of the completion operations after 30 working days, according to the contract completion inspection reports and sample collection. Overdue Principal will abandon this body, this body on behalf of disposal in accordance with the relevant provisions.
7. The report of the test findings do not prove untested items (functional or performance), compliance with the requirements.

# Test Report

Sample Name	LED lamp	Test categories	LM-79	
Specifications/level	P10036(BR30-14-9C CT-DIM)	Trademark	RAB	
Entrust unit	Technical Department	Entrust unit address	/	
Entrust the date	2024.05.06	Date received	2024.05.06	
The sample quantity	1	The sample description	Intact appearance	
Detection of address	/	Testing environment	25.1°C, 60%	
Starting test time	2024.05.06	Detection of completion time	2024.05.14	
Detection based on	IESNA LM-79-2019 Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products			
	Special requirements :			
Test items	/			
Test Conclusion	The test items are qualified.Please refer to Technical Specifications for results. Special seal for test report. Date of issue 2024.05.14			
Note and subcontract information	/			
Opinions and explain	/			
The principal(unit) Communication data	Address	/	Zip code	/
	Mailbox	/	Telephone	/

# Photos of the sample

Type: P10036(BR30-14-9CCT-DIM)



## Test Equipment List

Serial number	device name	Number	specifications	Calibration Date	Calibration Due date
1	Spectral analysis system	2030070003-008	HAAS-2000	2024/1/4	2025/1/3
2	Precision digital display DC power supply	2020180039-002	WY305	2023/12/25	2024/12/24
3	Intelligent AC test power supply	2020180074-005	DPS1010	2023/12/26	2024/12/25
4	Temperature and humidity meter	2080190001-002	C0S03	2023/12/25	2024/12/24
5	Integrate Sphere system	2030100001-017	(1.5M)	2024/1/4	2025/1/3
6	Electrical parameter measuring instrument	2020090011-018	PF310A	2023/12/26	2024/12/25
7	Intelligent AC test power supply	2020180103-998	DPS1005	2023/12/25	2024/12/24
8	Precision digital display DC power supply	2020180128-001	WY3010	2023/12/25	2024/12/24
9	Electrical parameter measuring instrument	2020090015-999	PF9811	2023/12/25	2024/12/24
10	Calibration lamp	2030030004-029	D204	2024/4/15	2025/4/14
11	Horizontal distribution photometer	2030060006-001	GO-2000	2024/1/4	2025/1/3

**Test Summary**

Sample Tested: P10036(BR30-14-9CCT-DIM)

<b>Luminous Efficacy (Lumens /Watt)</b>	<b>Total Luminous Flux (Lumens)</b>	<b>Power (Watts)</b>	<b>Power Factor</b>
100	1400	14	0.9
<b>CCT (K)</b>	<b>CRI</b>	<b>Stabilization Time (Min)</b>	
2700/3000/3500/4000/5000	90	85	

Table 1: Executive Data Summary

Note: The above results are recorded/ derived from measurements made using an Integrating Sphere.

**Test specifications:**

<b>Date of Receipt</b>	: May 6, 2024
<b>Date of Test</b>	: May 6, 2024
<b>Test item</b>	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
<b>Reference Standard</b>	: IESNA LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products ANSI/IES TM-30-18 IES Method for Evaluating Light Source Color Rendition
<b>Equipment Under Test (EUT)</b>	
<b>Name</b>	: LED Lamp
<b>Model</b>	: P10036(BR30-14-9CCT-DIM)
<b>Electrical Ratings</b>	: 120V, 60Hz, 14.0W
<b>ProductDescription</b>	: E26 base, 2700K/3000K/3500K/4000K/5000K

**TEST RESULTS**

Test ambient temperature was 25.1°C.

Base orientation was base up. Test was conducted without a dimmer in the circuit.

The stabilization time of the sample was 85 minutes, and the total operating time including stabilization was 120 minutes.

**Sphere-Spectroradiometer Method(2700K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1136
Power Factor	0.9782
Test Power (W)	13.34
Luminous Efficacy (lm/W)	114.48
Total Luminous Flux (lm)	1527.5
Color Rendering Index (CRI)	93.2
R9	63
Correlated Color Temperature (CCT) (K)	2731
Chromaticity (Chroma x, Chroma y)	(0.4587, 0.4126)
Chromaticity (Chroma u, Chroma v)	(0.2609, 0.5279)
Duv	0.000831

Special Color Rendering Indices	
R1	95
R2	95
R3	92
R4	95
R5	94
R6	95
R7	94
R8	86
R9	63
R10	85
R11	95
R12	79
R13	95
R14	94
R15	91

**(3000K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1126
Power Factor	0.9776
Test Power (W)	13.22
Luminous Efficacy (lm/W)	120.89
Total Luminous Flux (lm)	1598
Color Rendering Index (CRI)	95.4
R9	74
Correlated Color Temperature (CCT) (K)	2999
Chromaticity (Chroma x, Chroma y)	(0.4351, 0.4002)
Chromaticity (Chroma u, Chroma v)	(0.2511, 0.5196)
Duv	-0.00132

Special Color Rendering Indices	
R1	98
R2	97
R3	93
R4	97
R5	97
R6	96
R7	95
R8	90
R9	74
R10	90
R11	96
R12	80
R13	98
R14	94
R15	95

**(3500K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	59.97
Test Current (A)	0.1114
Power Factor	0.9772
Test Power (W)	13.08
Luminous Efficacy (lm/W)	127.81
Total Luminous Flux (lm)	1671.6
Color Rendering Index (CRI)	96.7
R9	85
Correlated Color Temperature (CCT) (K)	3425
Chromaticity (Chroma x, Chroma y)	(0.4068, 0.3857)
Chromaticity (Chroma u, Chroma v)	(0.2388, 0.5094)
Duv	-0.00256

Special Color Rendering Indices	
R1	99
R2	98
R3	94
R4	98
R5	98
R6	96
R7	96
R8	95
R9	85
R10	93
R11	96
R12	78
R13	100
R14	95
R15	99

**(4000K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1117
Power Factor	0.9772
Test Power (W)	13.11
Luminous Efficacy (lm/W)	127.26
Total Luminous Flux (lm)	1668.8
Color Rendering Index (CRI)	97.1
R9	91
Correlated Color Temperature (CCT) (K)	3921
Chromaticity (Chroma x, Chroma y)	(0.3822, 0.3726)
Chromaticity (Chroma u, Chroma v)	(0.2279, 0.5000)
Duv	-0.00246

Special Color Rendering Indices	
R1	98
R2	99
R3	93
R4	98
R5	98
R6	95
R7	98
R8	97
R9	91
R10	93
R11	96
R12	75
R13	99
R14	95
R15	98

**(5000K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1136
Power Factor	0.9781
Test Power (W)	13.34
Luminous Efficacy (lm/W)	118.28
Total Luminous Flux (lm)	1578.4
Color Rendering Index (CRI)	95.9
R9	87
Correlated Color Temperature (CCT) (K)	5077
Chromaticity (Chroma x, Chroma y)	(0.3431, 0.3524)
Chromaticity (Chroma u, Chroma v)	(0.2098, 0.4848)
Duv	0.0012

Table 2: Test data per Sphere-Spectroradiometer Method

Note: According to CIE 1976 (u',v') diagram,  $u' = u = 4x/(-2x+12y+3)$ ,  $v' = 3v/2 = 9y/(-2x+12y+3)$ .

Special Color Rendering Indices	
R1	98
R2	97
R3	92
R4	97
R5	96
R6	94
R7	97
R8	96
R9	87
R10	89
R11	95
R12	73
R13	98
R14	95
R15	98

### Goniophotometer Method

The photometric distance is 9.91m.

Luminous data was taken at 1°vertical intervals and 22.5°horizontal intervals.(**2700K**)

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1139
Power Factor	13.38
Test Power (W)	0.9783
Luminous Efficacy (lm/W)	118.04
Total Luminous Flux (lm)	1579.4
Beam Angle (°)	117.0
Max Beam Candle Power (cd)	444.3
Spacing Criteria	117.0(0°-180°)/ 117.0 (90°-270°)
Zonal Lumens in the 0°-60°Zone	64.2%
Zonal Lumens in the 60°-90°Zone	25.0%
Zonal Lumens in the 90°-180°Zone	10.8%

### (3000K)

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1131
Power Factor	0.977
Test Power (W)	13.27
Luminous Efficacy (lm/W)	123.8

Total Luminous Flux (lm)	1645.0
Beam Angle (°)	117.2
Max Beam Candle Power (cd)	462.4
Spacing Criteria	117.2(0°-180°)/ 117.1 (90°-270°)
Zonal Lumens in the 0°-60°Zone	64.2%
Zonal Lumens in the 60°-90°Zone	25.0%
Zonal Lumens in the 90°-180°Zone	10.8%

**(3500K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1116
Power Factor	0.9772
Test Power (W)	13.096
Luminous Efficacy (lm/W)	130.17
Total Luminous Flux (lm)	1704.8
Beam Angle (°)	117.3
Max Beam Candle Power (cd)	478.8
Spacing Criteria	117.3(0°-180°)/ 117.2 (90°-270°)
Zonal Lumens in the 0°-60°Zone	64.2%
Zonal Lumens in the 60°-90°Zone	24.9%
Zonal Lumens in the 90°-180°Zone	10.9%

**(4000K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1119
Power Factor	0.9773
Test Power (W)	13.136
Luminous Efficacy (lm/W)	130.21
Total Luminous Flux (lm)	1710.5
Beam Angle (°)	117.2
Max Beam Candle Power (cd)	480.3
Spacing Criteria	117.2(0°-180°)/ 117.2 (90°-270°)
Zonal Lumens in the 0°-60°Zone	64.2%
Zonal Lumens in the 60°-90°Zone	24.9%
Zonal Lumens in the 90°-180°Zone	10.9%

**(5000K)**

Parameter	Result
Test Voltage (V)	120.1
Voltage frequency (Hz)	60
Test Current (A)	0.1141
Power Factor	0.9783

Test Power (W)	13.406
Luminous Efficacy (lm/W)	120.25
Total Luminous Flux (lm)	1612.1
Beam Angle (°)	117.3
Max Beam Candle Power (cd)	452.6
Spacing Criteria	117.3(0°-180°)/ 117.3 (90°-270°)
Zonal Lumens in the 0°-60°Zone	64.2%
Zonal Lumens in the 60°-90°Zone	24.9%
Zonal Lumens in the 90°-180°Zone	10.9%

Table 3: Test data per Goniophotometer Method

$\gamma(^{\circ})$	Lumens	% Total
0-30	344.2	21.8
0-40	564.7	35.8
0-60	1014	64.2
0-90	1408	89.2
0-120	1526	96.6
0-180	1579	100.0
60-90	394	25.0
90-120	118	7.5
90-130	139	8.8
90-150	162	10.3
90-180	171	10.8

**(3000K)**

$\gamma(^{\circ})$	Lumens	% Total
0-30	358.4	21.8
0-40	588	35.7
0-60	1056	64.2
0-90	1467	89.2
0-120	1589	96.6
0-180	1645	100.0
60-90	411	25.0
90-120	122	7.4
90-130	144	8.8
90-150	168	10.2
90-180	178	10.8

**(3500K)**

$\gamma(^{\circ})$	Lumens	% Total
0-30	371.4	21.8
0-40	609.2	35.7
0-60	1095	64.2
0-90	1520	89.1
0-120	1647	96.6
0-180	1705	100
60-90	425	24.9
90-120	127	7.4
90-130	149	8.7
90-150	175	10.3
90-180	185	10.9

$\gamma(^{\circ})$	Lumens	% Total
--------------------	--------	---------

**(4000K)**

0-30	372.5	21.8
0-40	611.1	35.7
0-60	1098	64.2
0-90	1525	89.1
0-120	1653	96.6
0-180	1710	100
60-90	427	25.0
90-120	128	7.5
90-130	150	8.8
90-150	175	10.2
90-180	185	10.8

**(5000K)**

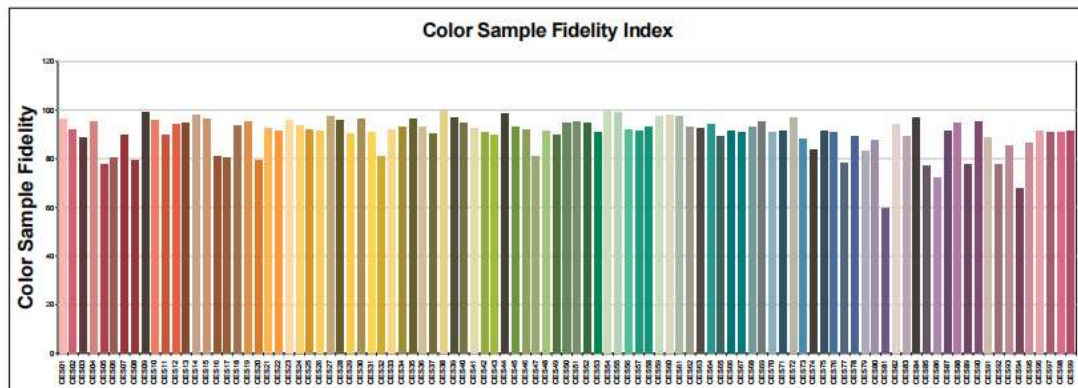
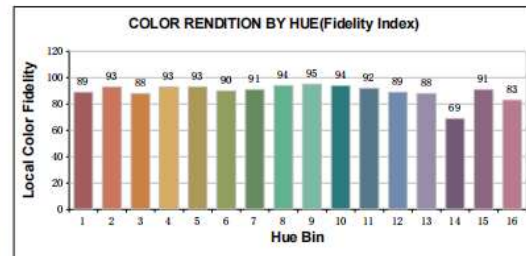
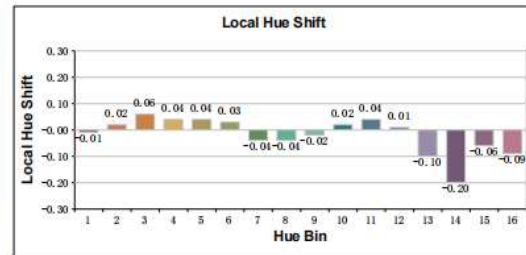
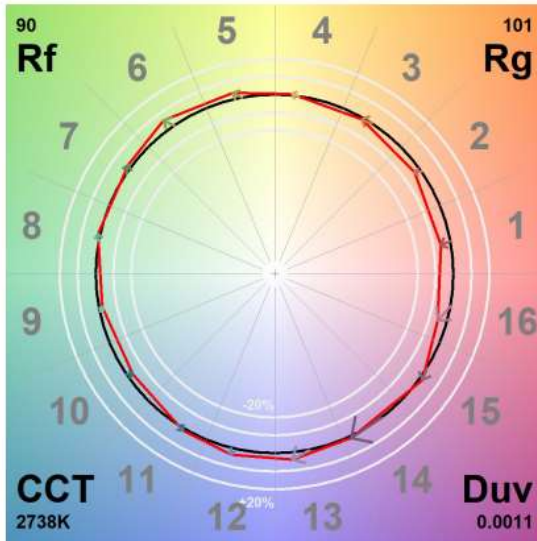
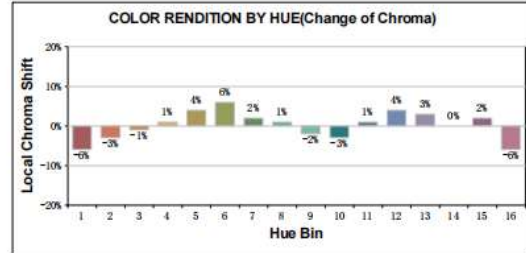
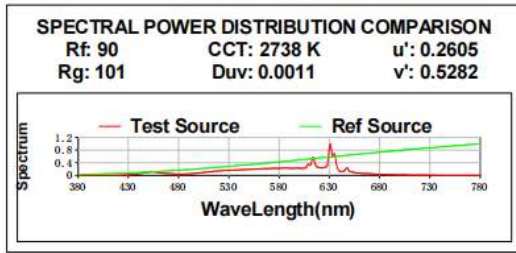
$\gamma(^{\circ})$	Lumens	% Total
0-30	350.6	21.8
0-40	575.5	35.7
0-60	1035	64.2
0-90	1437	89.1
0-120	1557	96.6
0-180	1612	100
60-90	402	24.9
90-120	120	7.4
90-130	142	8.8
90-150	166	10.3
90-180	175	10.9

Table 4: Zonal Lumen Data

### Color Rendition Report-Sphere Spectroradiometer Method(2700K)

## TM30

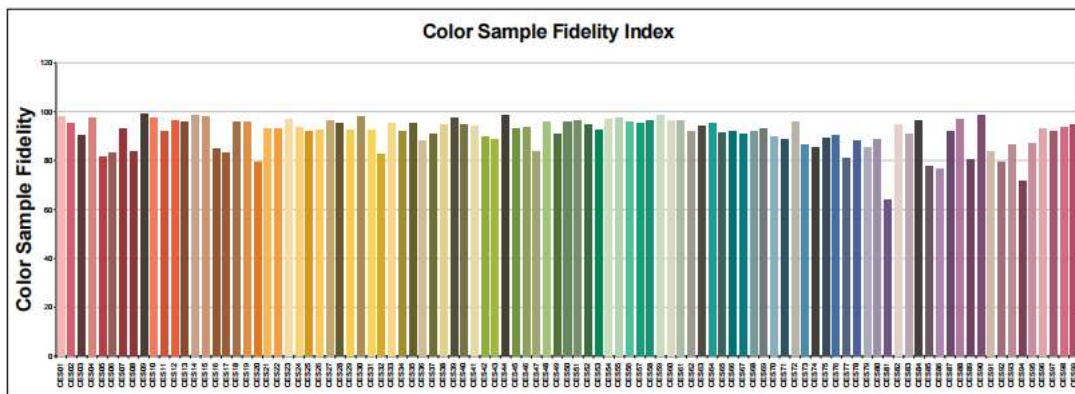
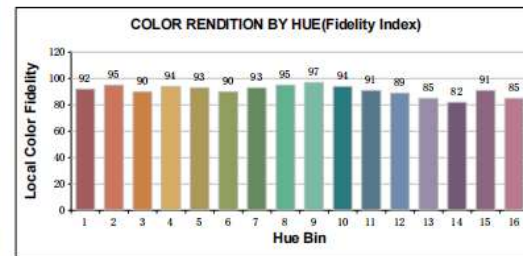
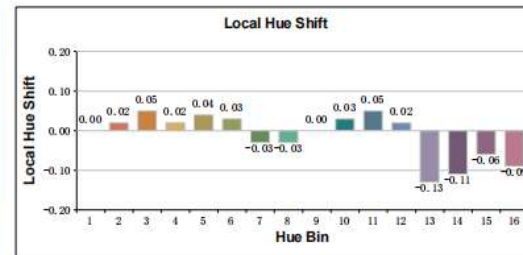
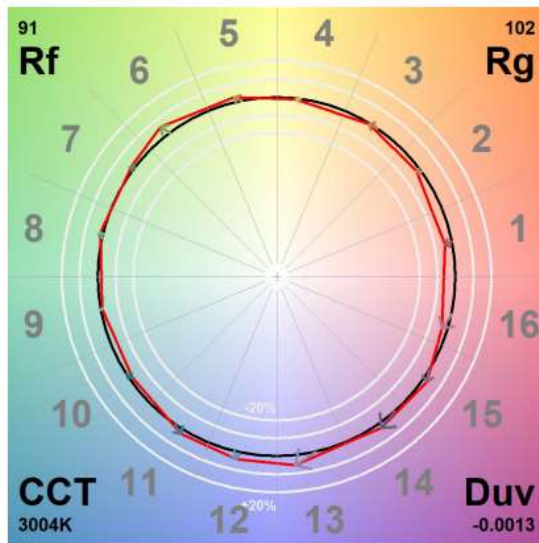
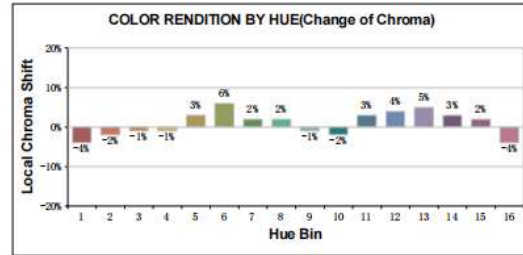
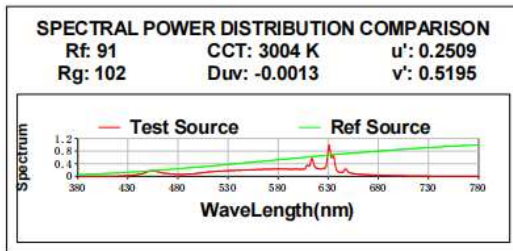
View Angle:2 Deg



(3000K)

### TM30

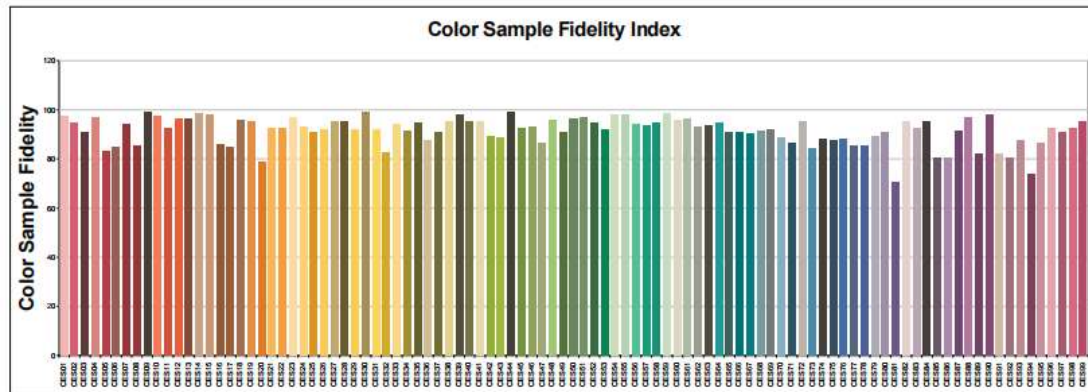
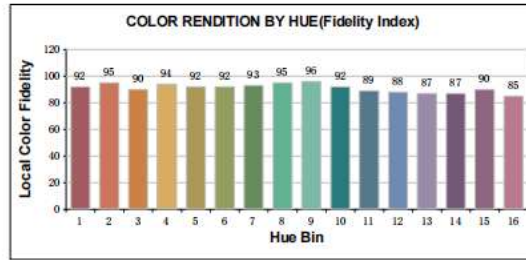
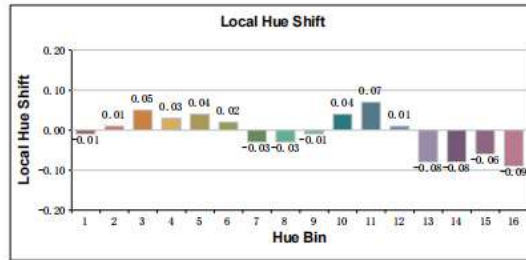
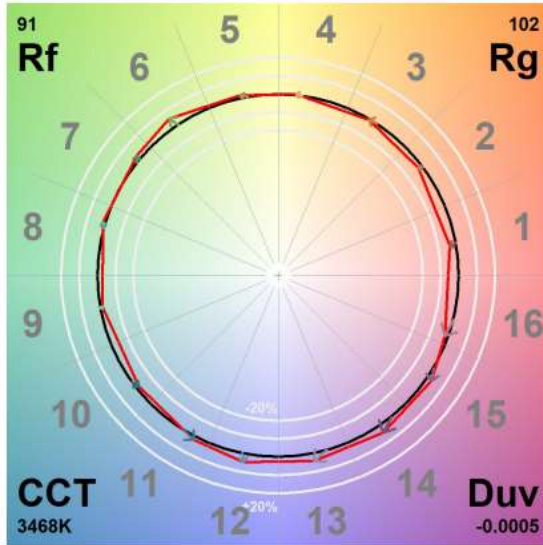
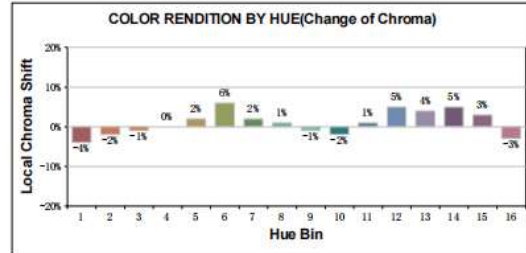
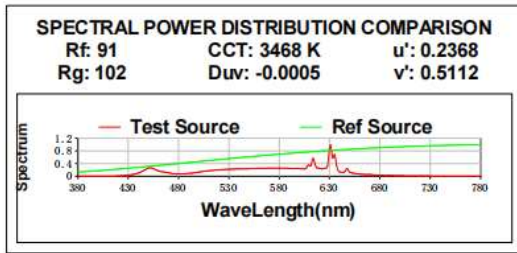
View Angle:2 Deg



(3500K)

# TM30

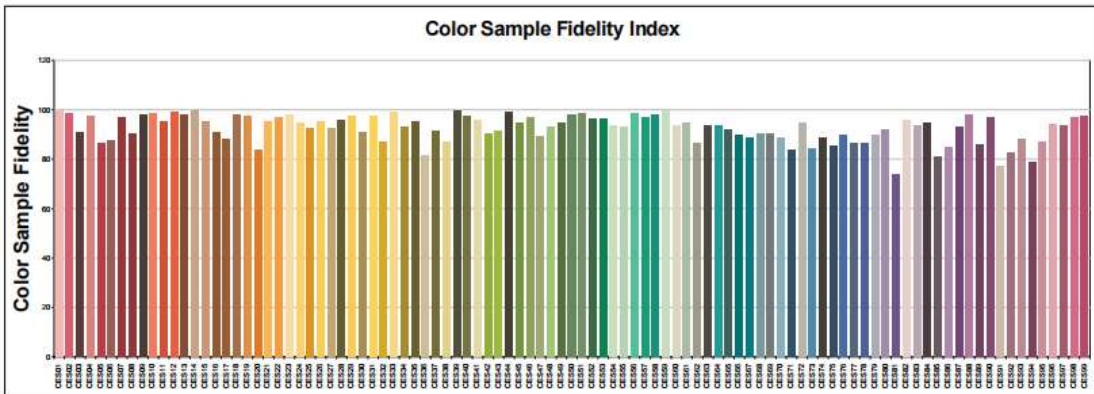
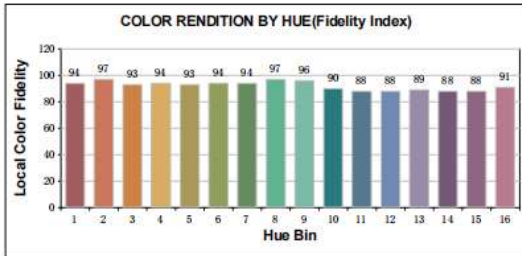
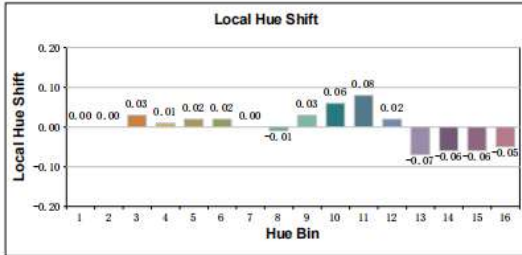
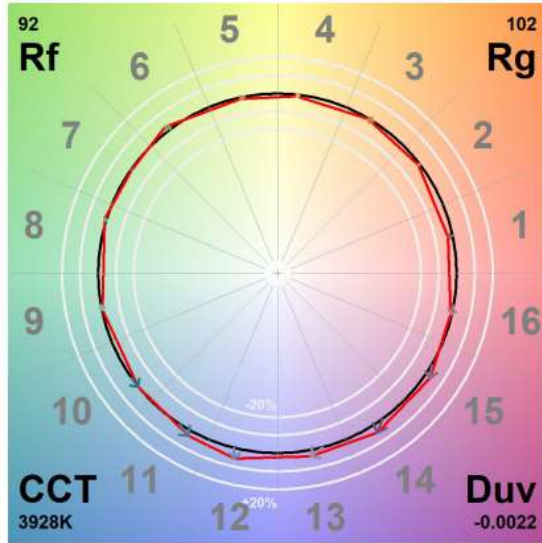
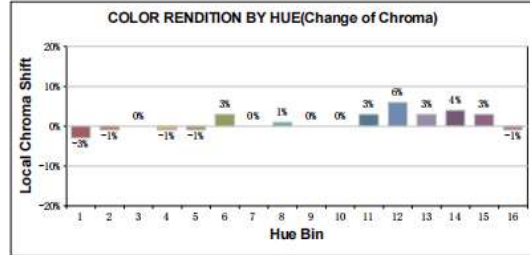
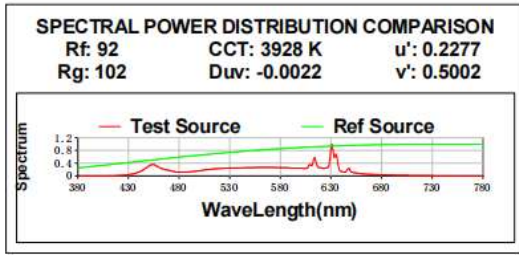
View Angle:2 Deg



(4000K)

# TM30

View Angle:2 Deg



(5000K)

# TM30

View Angle:2 Deg

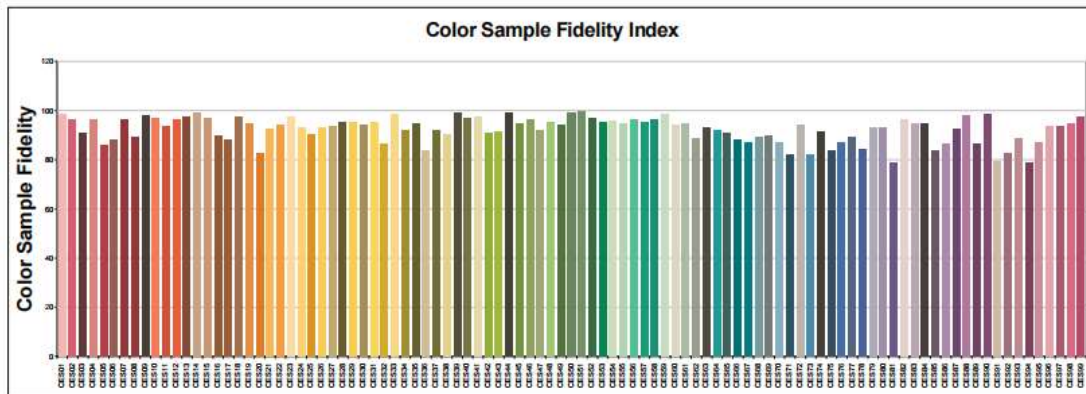
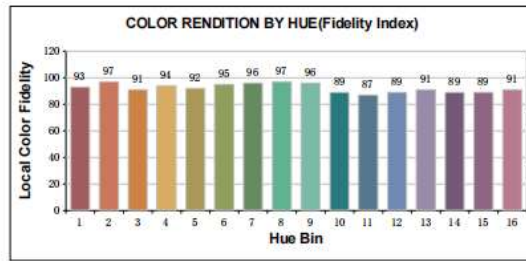
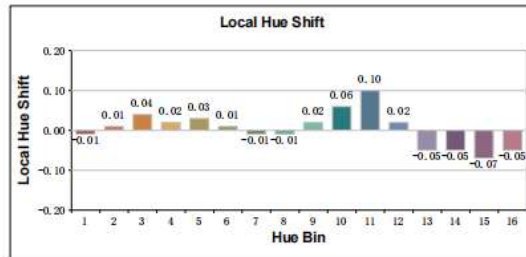
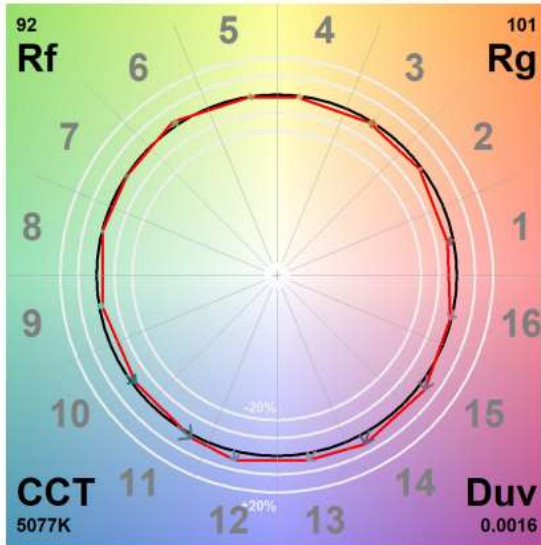
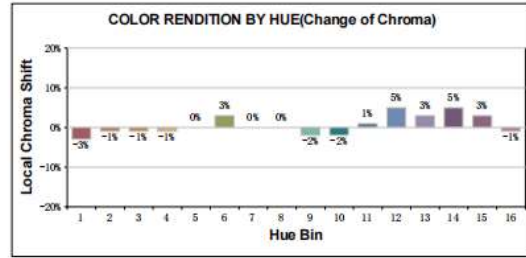
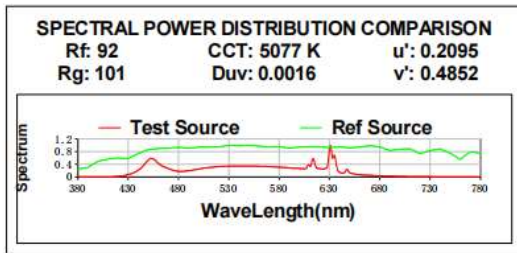
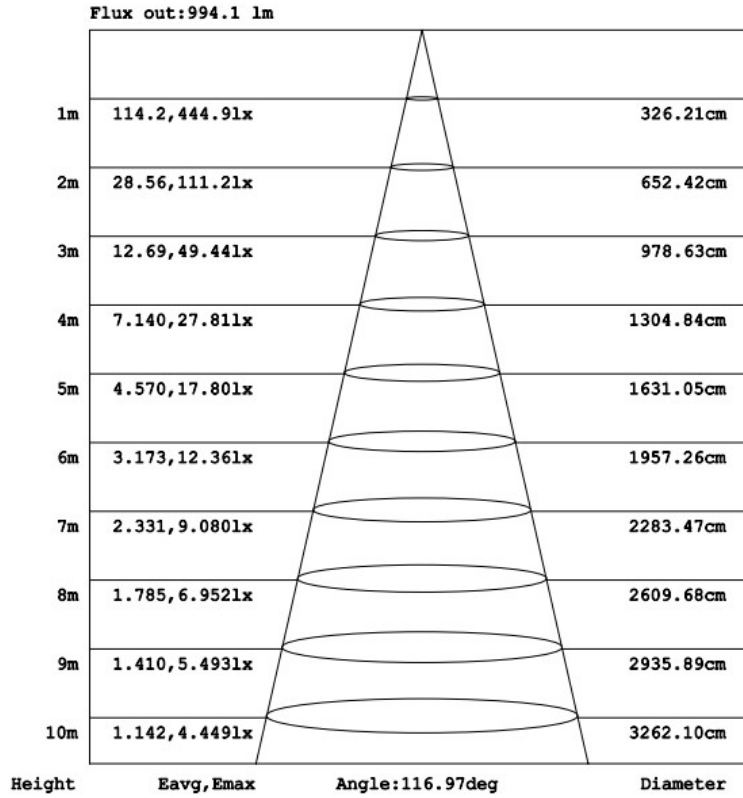
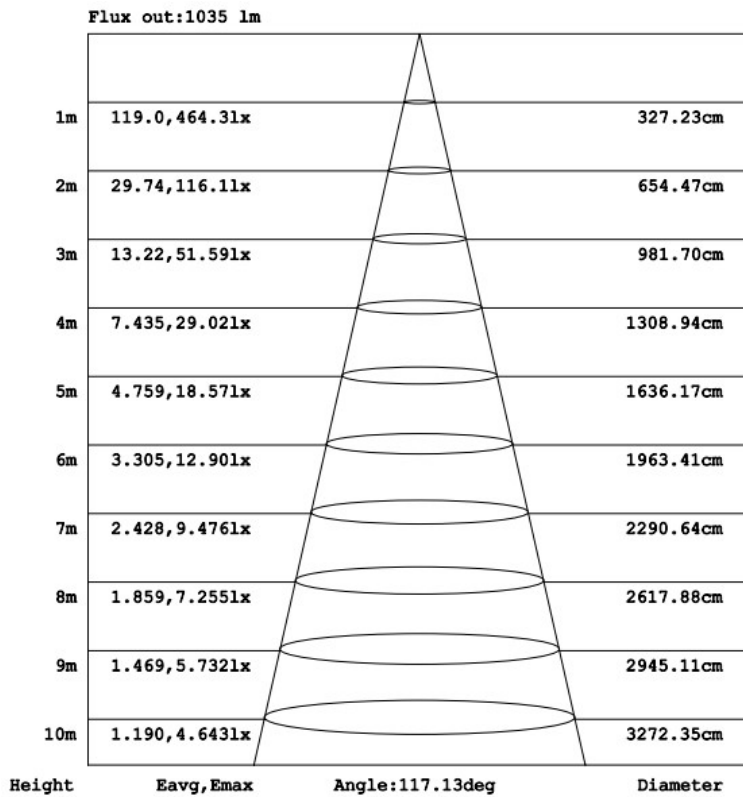


Chart 1: TM30

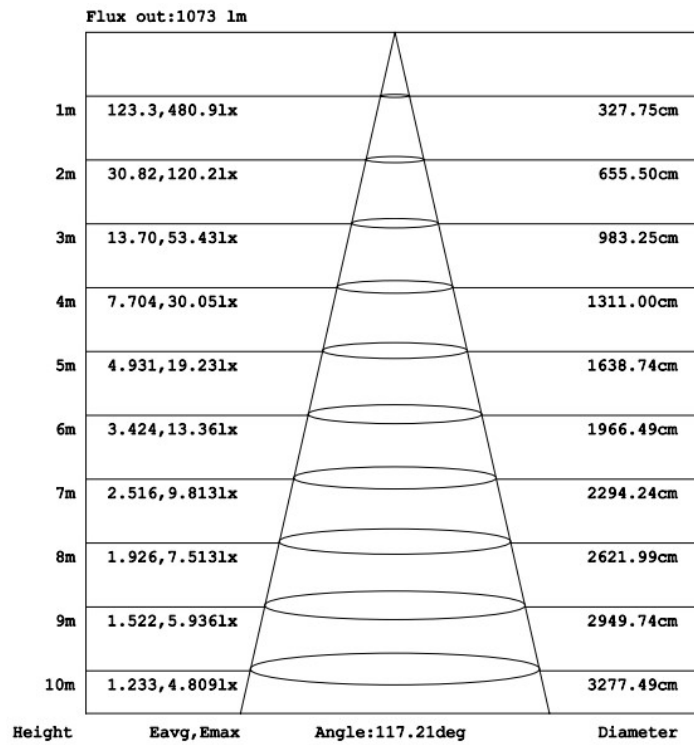
**Illuminance Plots- Goniophotometer Method(2700K)**



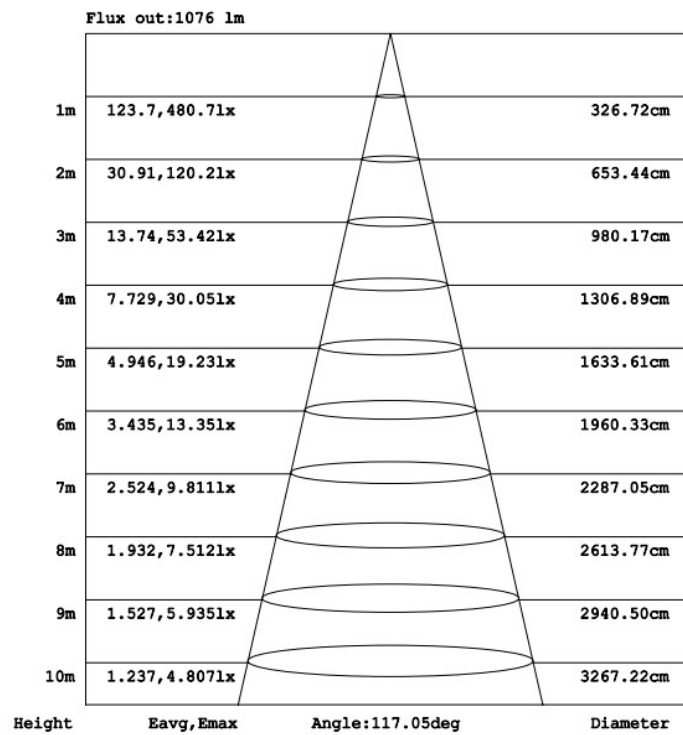
(3000K)



**(3500K)**



**(4000K)**



(5000K)

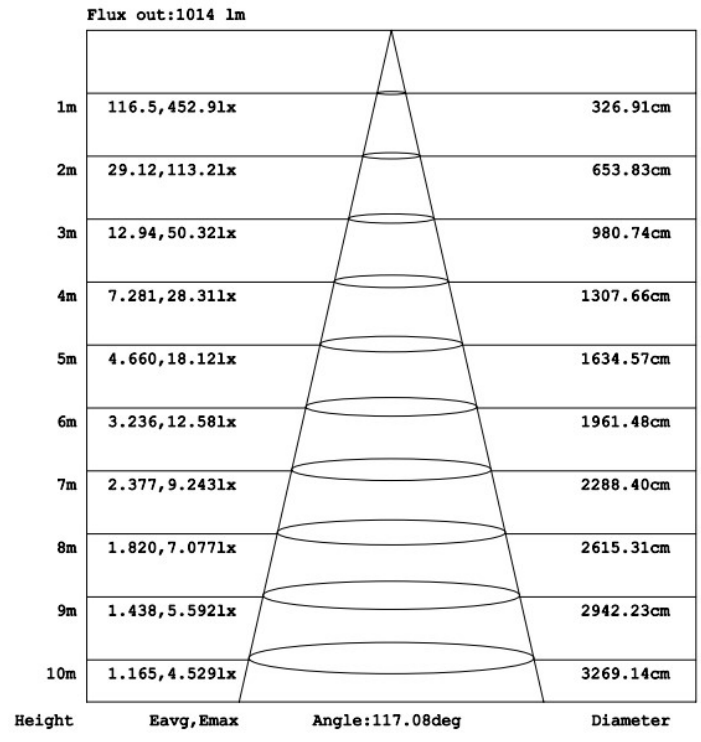
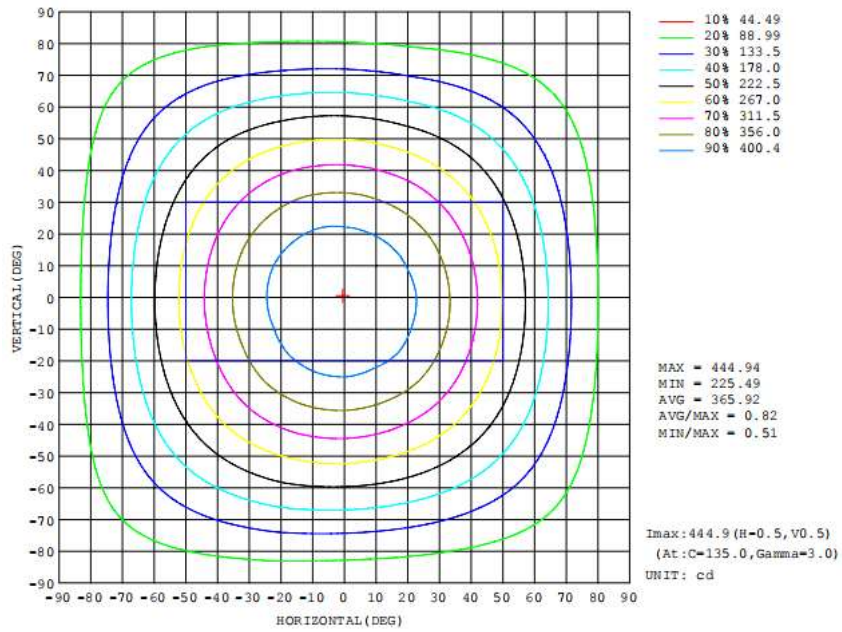
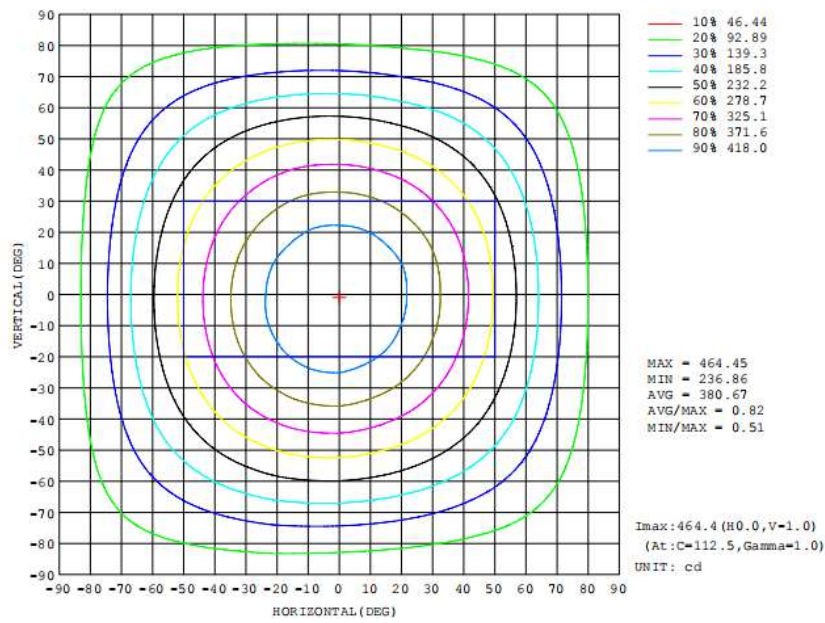


Chart 2: AAI Figure

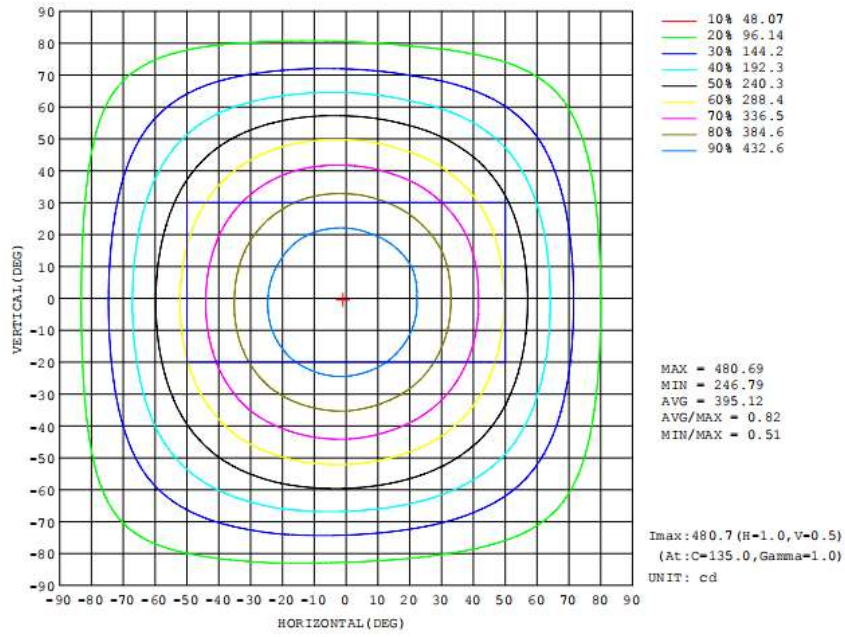
### Luminous Intensity Distribution Plots- Goniophotometer Method(2700K)



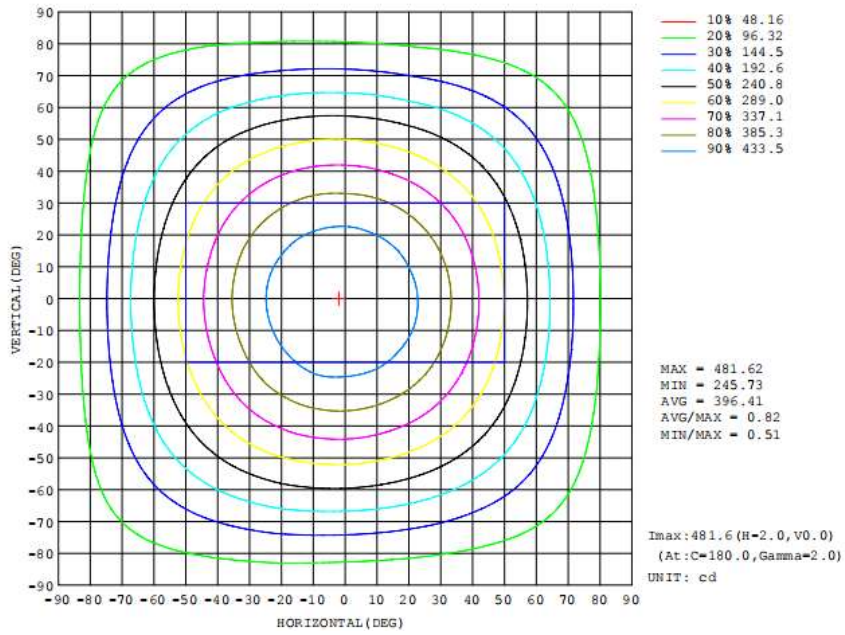
### (3000K)



(3500K)



(4000K)



(5000K)

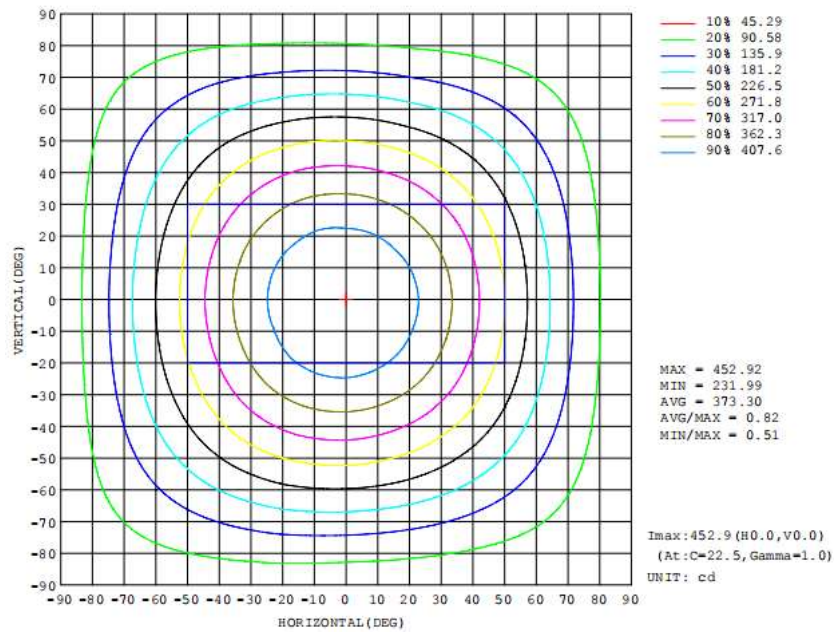
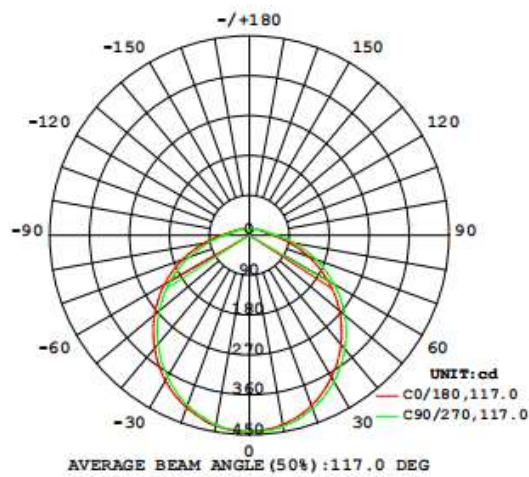


Chart 3: Isocandela Diagram

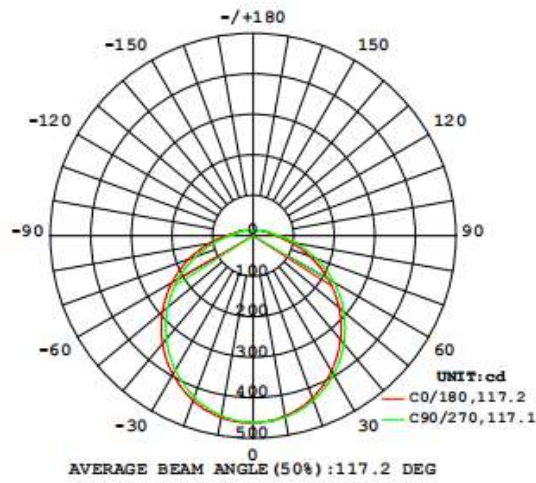
(2700K)

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



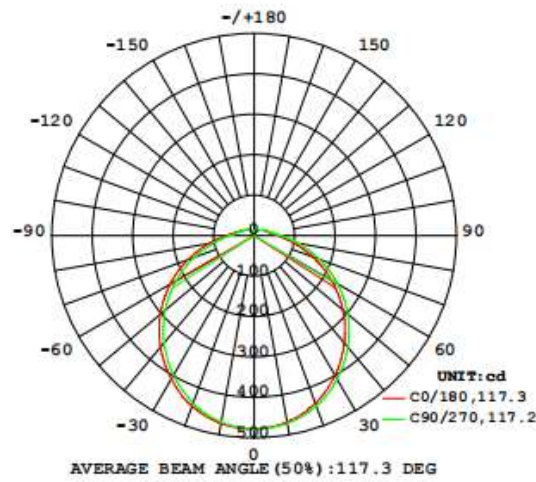
(3000K)

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



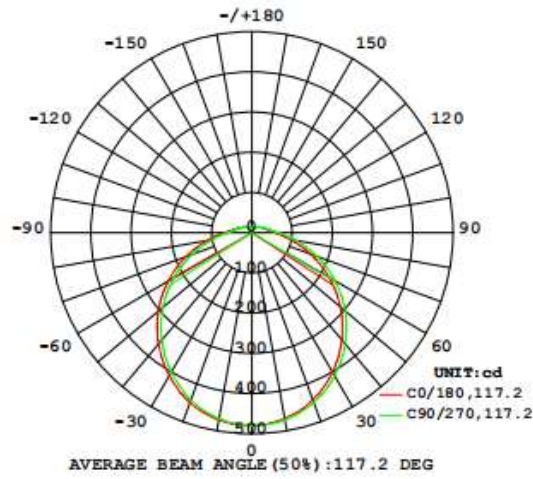
(3500K)

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



(4000K)

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



(5000K)

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

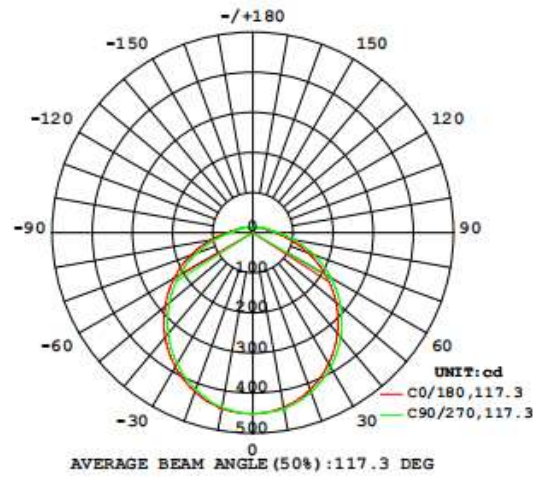


Chart 4: Luminous Intensity Distribution Diagram



(3000K)

Table--1 UNIT: cd

C (DEG) y (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461			
5	459	460	459	460	460	461	460	460	461	460	458	459	458	458	459	458			
10	453	453	454	455	455	456	456	455	457	454	453	453	451	450	451	452			
15	442	443	443	445	446	448	446	447	447	445	443	442	440	439	440	441			
20	427	428	429	431	432	436	434	434	433	432	427	428	424	424	423	426			
25	408	409	411	414	416	418	418	415	416	414	411	410	405	404	405	407			
30	387	389	390	393	396	398	398	396	396	394	389	388	384	382	383	384			
35	362	364	367	369	373	376	376	374	373	371	366	364	359	358	358	360			
40	335	337	341	344	348	351	351	348	348	345	341	339	333	331	332	334			
45	307	309	313	316	321	324	324	322	320	318	313	310	305	303	303	305			
50	277	280	283	287	292	295	294	293	292	288	284	281	276	273	273	275			
55	246	249	252	257	262	265	265	263	262	259	254	251	245	242	242	244			
60	213	217	220	225	231	234	234	232	231	227	223	218	213	209	210	211			
65	181	185	187	193	198	202	202	201	200	195	192	187	182	177	178	179			
70	149	153	156	161	166	171	170	169	168	164	161	155	150	146	146	147			
75	119	123	125	130	135	140	139	138	137	133	130	125	121	116	117	117			
80	93.1	96.1	98.5	103	107	111	111	110	109	105	102	98.5	94.5	91.3	91.2	91.9			
85	71.9	74.4	76.2	79.8	83.1	86.6	86.1	85.6	84.8	82.0	80.0	76.7	73.6	70.8	71.0	71.2			
90	56.4	58.2	59.5	62.1	64.5	67.1	66.7	66.4	65.9	63.9	62.3	60.0	57.6	55.6	55.9	56.0			
95	46.2	47.1	48.0	49.5	51.2	53.0	52.6	52.5	52.2	51.0	50.0	48.5	46.8	45.7	45.7	45.8			
100	39.6	40.2	40.5	41.5	42.5	43.6	43.7	43.5	43.4	42.7	42.0	41.2	40.1	39.4	39.3	39.4			
105	35.3	35.7	35.9	36.5	37.2	38.0	38.0	37.9	37.8	37.5	37.0	36.4	35.6	35.1	35.1	35.1			
110	31.8	32.1	32.4	32.9	33.4	34.1	34.1	34.1	34.0	33.6	33.3	32.7	32.0	31.6	31.6	31.6			
115	28.6	29.0	29.1	29.6	30.2	30.8	30.7	30.7	30.6	30.3	29.9	29.4	28.8	28.4	28.4	28.4			
120	25.8	26.0	26.2	26.7	27.2	27.7	27.7	27.6	27.5	27.2	26.9	26.4	25.8	25.5	25.5	25.5			
125	23.2	23.4	23.6	24.1	24.4	24.9	24.9	24.8	24.7	24.5	24.2	23.7	23.2	22.8	22.9	23.0			
130	20.8	21.0	21.2	21.6	22.0	22.5	22.4	22.3	22.1	21.9	21.6	21.2	20.7	20.4	20.5	20.5			
135	18.6	18.8	19.1	19.4	19.8	20.2	20.1	20.0	19.8	19.6	19.3	18.9	18.5	18.2	18.3	18.4			
140	16.6	16.9	17.0	17.4	17.7	18.0	18.0	17.9	17.7	17.5	17.2	16.9	16.5	16.2	16.3	16.4			
145	14.8	15.0	15.2	15.5	15.8	16.1	16.1	16.0	15.8	15.5	15.3	15.0	14.6	14.4	14.5	14.6			
150	13.2	13.4	13.6	13.9	14.1	14.4	14.3	14.3	14.0	13.8	13.6	13.4	13.0	12.9	12.9	13.0			
155	11.8	12.0	12.2	12.4	12.6	12.9	12.8	12.7	12.6	12.4	12.1	11.9	11.6	11.5	11.6	11.6			
160	10.8	10.9	11.1	11.3	11.4	11.6	11.6	11.5	11.4	11.2	11.0	10.8	10.6	10.5	10.5	10.6			
165	10.1	10.2	10.4	10.5	10.6	10.7	10.7	10.6	10.5	10.4	10.2	10.1	9.94	9.96	9.95	9.97			
170	9.95	10.03	10.1	10.2	10.1	10.2	10.2	10.2	10.2	10.1	10.00	9.93	9.91	9.95	9.97	9.88			
175	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.3	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3			
180	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7			

(3500K)

Table--1 UNIT: cd

Y (DEG)	C (DEG)																		
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	478	478	478	478	478	478	478	478	478	478	478	478	478	478	478	478			
5	476	476	476	476	477	477	477	477	477	477	476	475	475	475	475	475			
10	468	469	469	471	471	473	472	472	471	469	468	468	467	468	468				
15	457	459	459	461	463	464	464	462	462	461	460	457	456	455	456	456			
20	440	444	444	447	448	451	450	449	449	447	445	443	441	439	441	440			
25	423	423	426	427	431	433	433	431	431	429	426	425	421	419	419	422			
30	400	402	404	406	410	412	412	410	409	409	405	402	399	397	397	399			
35	375	377	380	382	387	389	389	387	386	384	380	377	373	371	371	374			
40	347	350	353	356	361	363	363	361	360	358	354	351	347	344	344	346			
45	317	320	324	327	332	335	336	333	332	330	325	321	317	314	314	316			
50	286	289	293	297	302	306	305	303	303	300	295	292	287	283	283	285			
55	254	257	261	265	271	274	274	272	269	264	259	255	251	250	253				
60	220	224	228	232	238	242	242	240	239	236	232	227	222	217	218	219			
65	187	191	194	200	204	209	209	208	207	203	199	194	189	184	184	186			
70	154	158	161	167	171	176	176	175	174	170	167	161	157	152	152	153			
75	123	127	130	135	140	144	144	143	142	138	135	130	126	121	121	122			
80	96.2	99.4	102	106	110	115	114	114	113	109	107	102	98.5	94.8	94.7	95.4			
85	74.4	76.9	78.9	82.6	85.9	89.5	89.2	88.6	87.9	85.3	83.1	79.6	76.7	73.6	73.6	73.8			
90	58.4	60.2	61.6	64.3	66.7	69.3	68.9	68.7	68.1	66.3	64.6	62.2	60.0	58.0	57.7	58.1			
95	47.8	48.9	49.7	51.3	53.0	54.7	54.7	54.4	54.1	53.0	51.8	50.2	48.8	47.5	47.3	47.6			
100	41.0	41.7	42.0	43.0	44.1	45.2	45.2	45.1	44.9	44.3	43.6	42.6	41.7	40.8	40.8	40.9			
105	36.6	37.1	37.3	38.0	38.6	39.4	39.3	39.3	39.3	38.9	38.5	37.7	37.1	36.5	36.4	36.5			
110	33.0	33.3	33.6	34.1	34.7	35.3	35.3	35.3	35.2	34.9	34.5	33.8	33.3	32.8	32.7	32.8			
115	29.7	30.0	30.2	30.8	31.3	31.8	31.9	31.8	31.7	31.4	31.0	30.4	29.9	29.5	29.4	29.5			
120	26.7	27.0	27.2	27.7	28.2	28.7	28.8	28.5	28.5	28.2	27.9	27.4	26.9	26.5	26.4	26.5			
125	24.0	24.3	24.5	24.9	25.4	25.9	25.8	25.7	25.6	25.3	25.0	24.6	24.1	23.7	23.7	23.8			
130	21.6	21.8	22.0	22.4	22.8	23.3	23.2	23.1	23.0	22.7	22.4	22.0	21.6	21.3	21.3	21.3			
135	19.3	19.5	19.7	20.1	20.5	20.9	20.8	20.7	20.5	20.3	20.0	19.6	19.3	19.0	19.0	19.1			
140	17.2	17.4	17.6	18.0	18.4	18.7	18.6	18.5	18.3	18.1	17.8	17.5	17.1	16.9	16.9	17.0			
145	15.3	15.5	15.7	16.1	16.4	16.7	16.7	16.5	16.3	16.1	15.9	15.6	15.3	15.0	15.0	15.1			
150	13.6	13.8	14.1	14.4	14.7	14.9	14.8	14.7	14.6	14.3	14.1	13.8	13.6	13.4	13.4	13.4			
155	12.2	12.4	12.6	12.9	13.1	13.3	13.3	13.1	13.0	12.8	12.6	12.4	12.2	12.0	12.0	12.0			
160	11.1	11.3	11.5	11.7	11.9	12.0	12.0	11.8	11.7	11.6	11.4	11.2	11.1	11.0	11.0	11.0			
165	10.4	10.6	10.7	10.8	11.0	11.1	11.0	11.0	10.9	10.7	10.5	10.5	10.4	10.4	10.4	10.3			
170	10.3	10.4	10.4	10.5	10.5	10.6	10.5	10.5	10.5	10.5	10.4	10.3	10.3	10.4	10.4	10.2			
175	10.7	10.8	10.7	10.7	10.7	10.7	10.6	10.6	10.7	10.7	10.7	10.7	10.8	10.8	10.8	10.7			
180	11.1	11.1	11.1	11.1	11.1	11.1	11.0	11.0	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.0			



(5000K)

Table--1 UNIT: cd

C (DEG) y (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	452	452	452	452	452	452	452	452	452	452	452	452	452	452	452	452			
5	449	449	449	450	450	450	451	450	450	451	450	449	449	448	449	449			
10	441	443	443	445	446	446	445	445	446	445	445	443	442	442	441	442			
15	431	434	433	435	436	438	438	437	436	436	435	433	431	430	429	431			
20	417	417	419	421	423	424	424	423	422	422	420	419	416	415	414	416			
25	398	400	402	404	407	408	409	407	406	406	403	402	398	397	396	398			
30	377	379	381	383	387	389	389	388	386	386	383	381	377	376	375	377			
35	354	355	359	361	365	367	367	366	364	364	360	358	354	352	351	353			
40	327	331	333	336	340	343	343	341	340	339	336	332	328	325	325	327			
45	300	303	306	309	313	317	317	314	313	312	308	305	301	297	298	299			
50	271	274	277	280	285	288	289	287	285	283	280	277	271	268	268	270			
55	240	244	247	251	256	259	259	257	257	254	251	246	242	238	238	239			
60	208	213	215	220	224	229	229	227	226	223	220	215	211	206	207	207			
65	177	181	184	189	193	198	197	196	195	192	189	183	179	174	175	176			
70	146	150	153	157	162	167	166	166	164	161	158	152	149	143	144	145			
75	117	120	123	128	132	136	136	135	134	131	128	123	119	115	115	116			
80	91.2	94.5	96.7	101	105	108	108	108	106	104	101	96.9	93.4	89.8	89.8	90.5			
85	70.6	73.2	75.1	78.3	81.4	84.7	84.4	83.7	82.9	80.6	78.4	75.3	72.6	69.8	69.8	70.0			
90	55.5	57.4	58.6	61.0	63.2	65.7	65.3	64.9	64.3	62.6	61.1	58.7	56.8	54.9	55.0	55.1			
95	45.4	46.5	47.3	48.9	50.3	51.9	51.7	51.4	51.1	50.0	49.0	47.4	46.2	44.9	44.9	45.1			
100	39.0	39.7	40.1	41.0	41.8	42.9	42.8	42.7	42.5	41.8	41.3	40.2	39.4	38.7	38.7	38.8			
105	34.7	35.2	35.5	36.1	36.7	37.4	37.3	37.3	37.1	36.7	36.4	35.6	35.1	34.5	34.6	34.6			
110	31.3	31.7	31.9	32.5	33.0	33.5	33.4	33.4	33.2	33.0	32.6	32.0	31.5	31.0	31.0	31.1			
115	28.2	28.5	28.8	29.3	29.7	30.3	30.2	30.1	29.9	29.7	29.3	28.7	28.3	27.9	27.9	28.0			
120	25.4	25.7	25.9	26.3	26.8	27.2	27.2	27.1	26.9	26.7	26.4	25.9	25.5	25.1	25.1	25.2			
125	22.8	23.1	23.3	23.7	24.1	24.5	24.5	24.3	24.2	23.9	23.7	23.2	22.8	22.5	22.5	22.6			
130	20.4	20.7	20.9	21.3	21.7	22.1	22.0	21.9	21.6	21.4	21.2	20.8	20.4	20.1	20.2	20.2			
135	18.2	18.5	18.7	19.1	19.4	19.8	19.7	19.6	19.3	19.2	18.9	18.5	18.2	17.9	18.0	18.1			
140	16.3	16.5	16.7	17.1	17.3	17.7	17.6	17.6	17.3	17.1	16.9	16.6	16.3	15.9	16.0	16.1			
145	14.5	14.7	14.9	15.2	15.5	15.8	15.7	15.6	15.4	15.2	15.0	14.7	14.4	14.2	14.2	14.3			
150	12.9	13.1	13.3	13.5	13.8	14.0	14.0	13.9	13.7	13.5	13.3	13.1	12.8	12.6	12.7	12.7			
155	11.6	11.7	11.9	12.1	12.4	12.5	12.5	12.4	12.2	12.1	11.9	11.7	11.5	11.4	11.4	11.4			
160	10.5	10.6	10.8	10.9	11.2	11.3	11.3	11.2	11.0	10.9	10.7	10.6	10.5	10.3	10.3	10.4			
165	9.80	9.95	10.1	10.1	10.3	10.4	10.4	10.3	10.2	10.1	9.93	9.87	9.80	9.78	9.73	9.76			
170	9.64	9.78	9.81	9.84	9.89	9.91	9.90	9.92	9.90	9.86	9.77	9.69	9.76	9.73	9.72	9.64			
175	10.1	10.1	10.1	10.1	10.1	10.1	10.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.0			
180	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4			

Table 5: Luminous Intensity Data

---End of Report---