

## Photometric Test Report

### Relevant Standards

- ☒ ANSI/IES LM-79-2019
- ☒ ANSI C82.77-2017

Prepared For

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Issue Date: 2025-10-22

Revised Date: N/A

## 1.0 Test Summary

DLC Technical Requirements V6.0

Track or Mono-Point Directional Luminaires					
Requirement Category		Test Method	Requirements		Test Value
Luminaire Output (lm) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	250		7073
Minimum Luminaire Efficacy (lm/W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Standard	Premium	147.4
			95	110	
Power (Input Wattage) (W) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		48.0
Total Harmonic Distortion (A%) (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	20.00%	120V	9.62
Power Factor (THD & PF – Section 4.3)		ANSI C82.77:2002 ANSI C82-77-10:2020	0.9	120V	0.991
Allowable CCTs* (K) (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019	7 steps	3465±245	3554
			4 steps	3465±124	
Minimum CRI (Integrating Sphere – Section 4.1)		ANSI/IES LM-79:2019 CIE13.3-1995	≥80		93.8
Minimum R9 (Integrating Sphere – Section 4.1)		ANSI/IES LM-79-2019 CIE13.3-1995	≥0		77
Minimum Rf (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥70		90
Minimum Rg (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	≥89		104
IES Rcs,h1 (Integrating Sphere – Section 4.1)		ANSI/IES TM-30-18	-12%≤IES Rcs,h1≤+23%		-4%
Zonal Lumen Requirement (0°-90°) (Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	≥85%		99.4%
Input Voltage (V)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Cast		120.0
(Goniophotometer – Section 4.2)			Non-Worst Case		N/A
Input Current (A)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		0.404
(Goniophotometer – Section 4.2)			Non-Worst Case		N/A
Power (Input Wattage – W)					
(Goniophotometer – Section 4.2)		ANSI/IES LM-79:2019	Worst Case		48.0
(Goniophotometer – Section 4.2)			Non-Worst Case		N/A

## 2.0 Test List

Test Item	Test	Test Date	Model Number	Build Level	Sample No.
1	Integrating Sphere Test	2025-10-21	TKBEAM4B @50W3500K	-	251017004-S1
2	Goniophotometer Test	2025-10-21	TKBEAM4B @50W3500K	-	251017004-S1
3	THD and PF Test	2025-10-21	TKBEAM4B @50W3500K	-	251017004-S1

### Remark (If any):

1. The results contained in this report pertain only to the tested samples.
2. This report shall not be reproduced, no limited part or full, without approval of Dongguan New Testing Centre Co., Ltd.
3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

### 3.0 Product Description

Luminaire Description: Model No. TKBEAM4B @50W3500K, color tunable from 2700K, 3000K, 3500K, 4000K and 5000K.

Electrical Specification: 120Vac, 60Hz

Photos of Luminaire Characteristics



## 4.0 LM-79 Measurement and Test Results

### 4.1 Integrating Sphere Test

Model No.	TKBEAM4B @50W3500K	Sample ID	251017004-S1
Operate time (Min.)	10	Stabilization time (Min.)	60
Temperature (°C)	25.4	Humidity (%RH)	41.0

#### Test Method

The Samples were tested according to the ANSI/IES LM-79:2019.

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25\pm1^{\circ}\text{C}$ .

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within  $\pm 0.2$  percent under load.

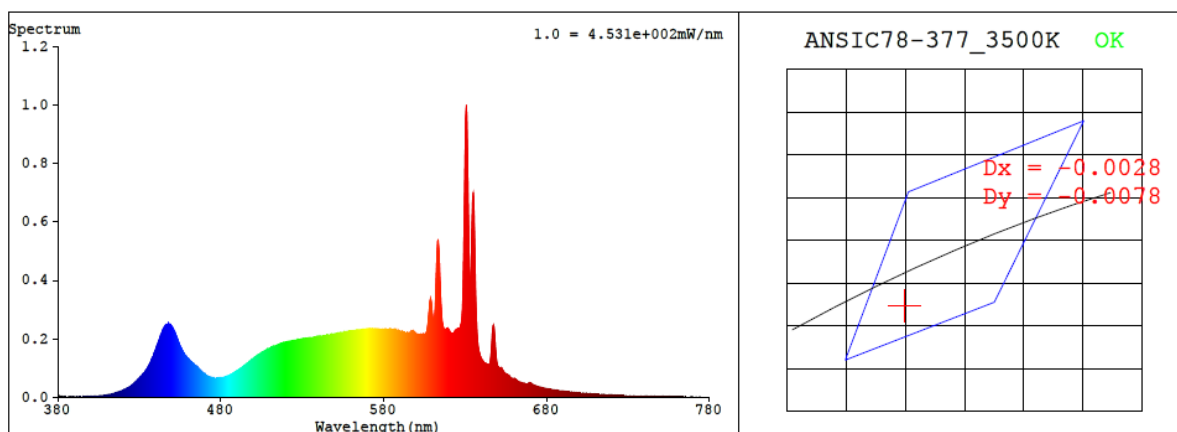
The sample was measured using  $4\pi$  geometry and operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780nm.

#### Test Result

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.0	60	0.404	48.0	0.991

CCT (K)	CRI	R9	Duv	SDCM	Rf	Rg	IES Rcs,h1
3554	93.8	77	-0.0028	4.6	90	104	-4%

## 4.1 Integrating Sphere Test



### Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3995$   $y = 0.3815$  /  $u' = 0.2358$   $v' = 0.5065$  ( $duv = -2.83e-03$ )

CCT= 3554K Prop WL:  $L_d = 582.0nm$  Purity=34.4%

Peak WL:  $L_p = 631nm$  FWHM:  $\approx 3.6nm$  Ratio: R=22.4% G=74.4% B=3.2%

Render Index:  $R_a = 93.8$  AvgR = 91.5 TM30:  $R_f = 90$   $R_g = 104$

EEL: 0.09261 A++ Highest

R1 =97 R2 =95 R3 =91 R4 =93 R5 =96 R6 =94 R7 =94

R8 =92 R9 =77 R10=86 R11=93 R12=81 R13=96 R14=93 R15=95

## 4.1 Integrating Sphere Test

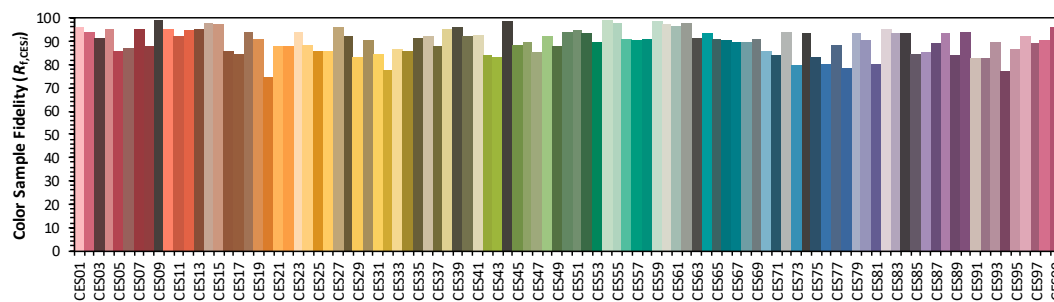
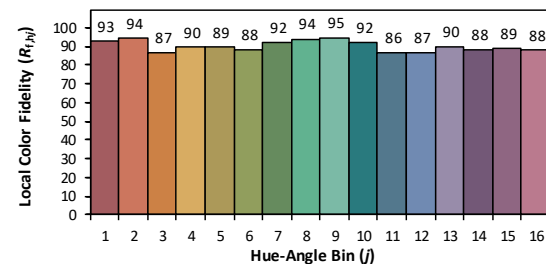
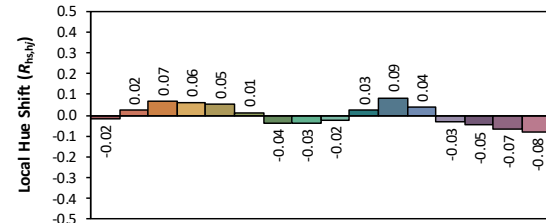
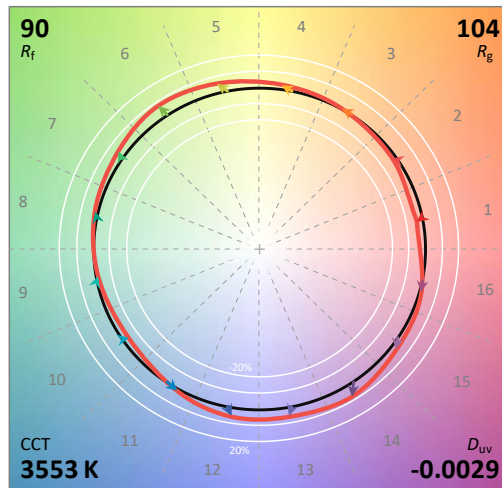
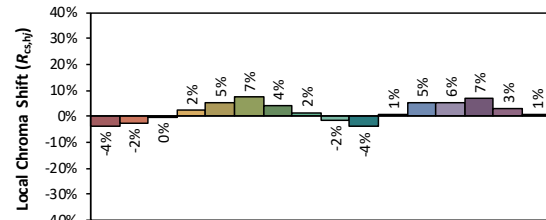
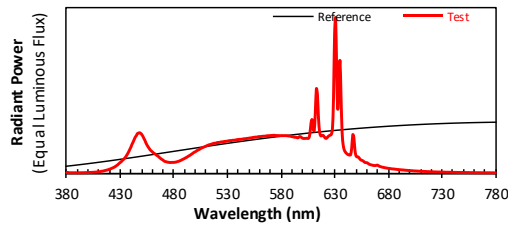
### ANSI/IES TM-30-18 Color Rendition Report

Source: 1 CIE F1

Manufacturer: RAB Lighting Inc.

Date: 2025/10/22

Model: TKBEAM4B @50W3500K



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

$x$  0.3995  
 $y$  0.3813  
 $u'$  0.2358  
 $v'$  0.5064

CIE 13.3-1995  
(CRI)

$R_a$  94  
 $R_g$  77

## 4.1 Integrating Sphere Test

Spectral Distribution over Visible Wavelength											
WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)	WL (nm)	Radiant (W/nm)
380	2.30E-06	447	2.48E-04	514	1.78E-04	581	2.33E-04	648	2.21E-04	715	9.50E-06
381	3.90E-06	448	2.51E-04	515	1.80E-04	582	2.32E-04	649	1.42E-04	716	9.10E-06
382	2.60E-06	449	2.47E-04	516	1.82E-04	583	2.33E-04	650	1.07E-04	717	8.90E-06
383	1.70E-06	450	2.41E-04	517	1.84E-04	584	2.33E-04	651	1.01E-04	718	8.60E-06
384	1.80E-06	451	2.30E-04	518	1.86E-04	585	2.32E-04	652	1.01E-04	719	8.20E-06
385	1.90E-06	452	2.17E-04	519	1.86E-04	586	2.32E-04	653	9.27E-05	720	8.10E-06
386	1.90E-06	453	2.04E-04	520	1.89E-04	587	2.31E-04	654	8.46E-05	721	8.00E-06
387	1.40E-06	454	1.88E-04	521	1.90E-04	588	2.30E-04	655	8.00E-05	722	7.50E-06
388	2.30E-06	455	1.74E-04	522	1.90E-04	589	2.29E-04	656	7.76E-05	723	7.20E-06
389	1.40E-06	456	1.64E-04	523	1.92E-04	590	2.27E-04	657	7.32E-05	724	7.10E-06
390	1.00E-06	457	1.54E-04	524	1.93E-04	591	2.26E-04	658	6.73E-05	725	6.70E-06
391	1.80E-06	458	1.44E-04	525	1.94E-04	592	2.24E-04	659	6.49E-05	726	6.70E-06
392	1.70E-06	459	1.37E-04	526	1.94E-04	593	2.23E-04	660	6.46E-05	727	6.40E-06
393	1.80E-06	460	1.32E-04	527	1.97E-04	594	2.22E-04	661	6.11E-05	728	6.40E-06
394	2.00E-06	461	1.25E-04	528	1.97E-04	595	2.20E-04	662	5.61E-05	729	6.00E-06
395	2.10E-06	462	1.21E-04	529	1.98E-04	596	2.20E-04	663	5.31E-05	730	5.80E-06
396	2.10E-06	463	1.16E-04	530	1.99E-04	597	2.26E-04	664	5.10E-05	731	5.80E-06
397	2.50E-06	464	1.10E-04	531	2.00E-04	598	2.27E-04	665	4.94E-05	732	5.50E-06
398	2.70E-06	465	1.06E-04	532	2.02E-04	599	2.22E-04	666	4.78E-05	733	5.30E-06
399	2.40E-06	466	1.01E-04	533	2.02E-04	600	2.17E-04	667	4.68E-05	734	5.10E-06
400	2.90E-06	467	9.43E-05	534	2.03E-04	601	2.15E-04	668	4.66E-05	735	5.00E-06
401	3.40E-06	468	8.88E-05	535	2.04E-04	602	2.15E-04	669	4.80E-05	736	4.80E-06
402	3.70E-06	469	8.41E-05	536	2.04E-04	603	2.16E-04	670	4.92E-05	737	5.00E-06
403	3.90E-06	470	8.03E-05	537	2.05E-04	604	2.16E-04	671	4.54E-05	738	4.70E-06
404	4.30E-06	471	7.45E-05	538	2.06E-04	605	2.15E-04	672	4.18E-05	739	4.30E-06
405	4.70E-06	472	7.16E-05	539	2.08E-04	606	2.18E-04	673	3.97E-05	740	4.40E-06
406	5.30E-06	473	7.00E-05	540	2.09E-04	607	2.46E-04	674	3.74E-05	741	4.00E-06
407	5.70E-06	474	6.81E-05	541	2.10E-04	608	3.09E-04	675	3.59E-05	742	4.10E-06
408	6.40E-06	475	6.70E-05	542	2.09E-04	609	3.32E-04	676	3.45E-05	743	4.10E-06
409	7.20E-06	476	6.60E-05	543	2.10E-04	610	2.78E-04	677	3.31E-05	744	3.80E-06
410	8.10E-06	477	6.55E-05	544	2.11E-04	611	2.63E-04	678	3.18E-05	745	3.50E-06
411	8.80E-06	478	6.63E-05	545	2.13E-04	612	3.70E-04	679	3.06E-05	746	3.70E-06
412	1.02E-05	479	6.63E-05	546	2.14E-04	613	5.24E-04	680	2.92E-05	747	3.60E-06
413	1.14E-05	480	6.64E-05	547	2.13E-04	614	4.88E-04	681	2.85E-05	748	3.30E-06
414	1.24E-05	481	6.72E-05	548	2.16E-04	615	3.40E-04	682	2.77E-05	749	3.30E-06
415	1.41E-05	482	6.84E-05	549	2.16E-04	616	2.58E-04	683	2.64E-05	750	3.30E-06
416	1.61E-05	483	7.02E-05	550	2.17E-04	617	2.33E-04	684	2.57E-05	751	3.20E-06
417	1.73E-05	484	7.23E-05	551	2.18E-04	618	2.32E-04	685	2.51E-05	752	3.00E-06
418	1.94E-05	485	7.45E-05	552	2.19E-04	619	2.36E-04	686	2.45E-05	753	3.10E-06
419	2.12E-05	486	7.72E-05	553	2.20E-04	620	2.30E-04	687	2.36E-05	754	2.90E-06
420	2.40E-05	487	8.04E-05	554	2.22E-04	621	2.20E-04	688	2.25E-05	755	3.00E-06
421	2.60E-05	488	8.42E-05	555	2.22E-04	622	2.16E-04	689	2.20E-05	756	2.70E-06
422	2.93E-05	489	8.70E-05	556	2.24E-04	623	2.20E-04	690	2.14E-05	757	2.60E-06
423	3.20E-05	490	9.09E-05	557	2.24E-04	624	2.28E-04	691	2.05E-05	758	2.50E-06
424	3.53E-05	491	9.43E-05	558	2.25E-04	625	2.33E-04	692	2.01E-05	759	2.60E-06
425	3.88E-05	492	9.82E-05	559	2.27E-04	626	2.36E-04	693	1.93E-05	760	2.40E-06
426	4.35E-05	493	1.02E-04	560	2.27E-04	627	2.41E-04	694	1.92E-05	761	2.30E-06
427	4.82E-05	494	1.07E-04	561	2.27E-04	628	2.76E-04	695	1.82E-05	762	2.10E-06
428	5.35E-05	495	1.10E-04	562	2.28E-04	629	4.63E-04	696	1.75E-05	763	2.10E-06
429	6.01E-05	496	1.15E-04	563	2.29E-04	630	8.62E-04	697	1.69E-05	764	2.20E-06
430	6.56E-05	497	1.20E-04	564	2.30E-04	631	9.64E-04	698	1.65E-05	765	2.20E-06
431	7.10E-05	498	1.24E-04	565	2.29E-04	632	6.25E-04	699	1.56E-05	766	2.00E-06
432	7.82E-05	499	1.29E-04	566	2.31E-04	633	3.97E-04	700	1.53E-05	767	1.90E-06
433	8.41E-05	500	1.32E-04	567	2.32E-04	634	5.50E-04	701	1.48E-05	768	1.90E-06
434	9.18E-05	501	1.37E-04	568	2.32E-04	635	7.02E-04	702	1.45E-05	769	1.80E-06
435	9.98E-05	502	1.41E-04	569	2.33E-04	636	4.82E-04	703	1.39E-05	770	1.80E-06
436	1.10E-04	503	1.44E-04	570	2.33E-04	637	2.56E-04	704	1.34E-05	771	1.70E-06
437	1.21E-04	504	1.48E-04	571	2.34E-04	638	1.76E-04	705	1.30E-05	772	1.70E-06
438	1.34E-04	505	1.53E-04	572	2.34E-04	639	1.45E-04	706	1.27E-05	773	1.60E-06
439	1.48E-04	506	1.56E-04	573	2.35E-04	640	1.32E-04	707	1.21E-05	774	1.70E-06
440	1.62E-04	507	1.59E-04	574	2.35E-04	641	1.23E-04	708	1.18E-05	775	1.60E-06
441	1.79E-04	508	1.62E-04	575	2.34E-04	642	1.17E-04	709	1.14E-05	776	1.50E-06
442	1.92E-04	509	1.65E-04	576	2.33E-04	643	1.14E-04	710	1.10E-05	777	1.50E-06
443	2.08E-04	510	1.67E-04	577	2.34E-04	644	1.12E-04	711	1.07E-05	778	1.40E-06
444	2.23E-04	511	1.71E-04	578	2.32E-04	645	1.14E-04	712	1.04E-05	779	1.40E-06
445	2.32E-04	512	1.74E-04	579	2.33E-04	646	1.57E-04	713	1.02E-05	780	1.40E-06
446	2.45E-04	513	1.76E-04	580	2.32E-04	647	2.38E-04	714	9.70E-06	N/A	N/A



## 4.0 LM-79 Measurement and Test Results

### 4.2 Goniophotometer Test

Model No.	TKBEAM4B @50W3500K	Sample ID	251017004-S1
Operate time (Min.)	30	Stabilization time (Min.)	60
Temperature (°C)	25.0	Humidity (%RH)	41.3

Test Method
<p>The Samples were tested according to the ANSI/IES LM-79:2019.</p> <p>Photometric parameters were measured using a type C goniophotometer and software.</p> <p>The ambient temperature shall be maintained at <math>25 \pm 1^\circ\text{C}</math>, measured at a point not more than 1 m from the sample and at the same height as the sample.</p> <p>The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within <math>\pm 0.2</math> percent under load.</p> <p>The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at <math>1.0^\circ</math> vertical intervals and <math>15^\circ</math> horizontal intervals.</p>

#### Test Conditions

Condition	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
WORST CASE	120.0	60	0.404	48.0	0.991
NON-WORST CASE	N/A	N/A	N/A	N/A	N/A

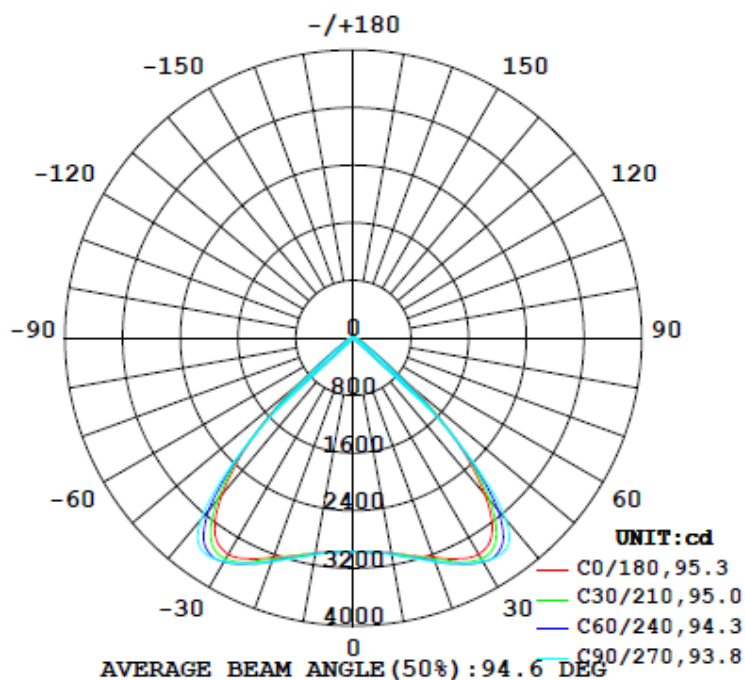
#### Test Result

Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)	Zonal Lumen Requirement
	C0-180	C90-270	C0-180	C90-270		(0°-90°)
7073	93.6	108.1	67.8	90.7	147.4	99.4%

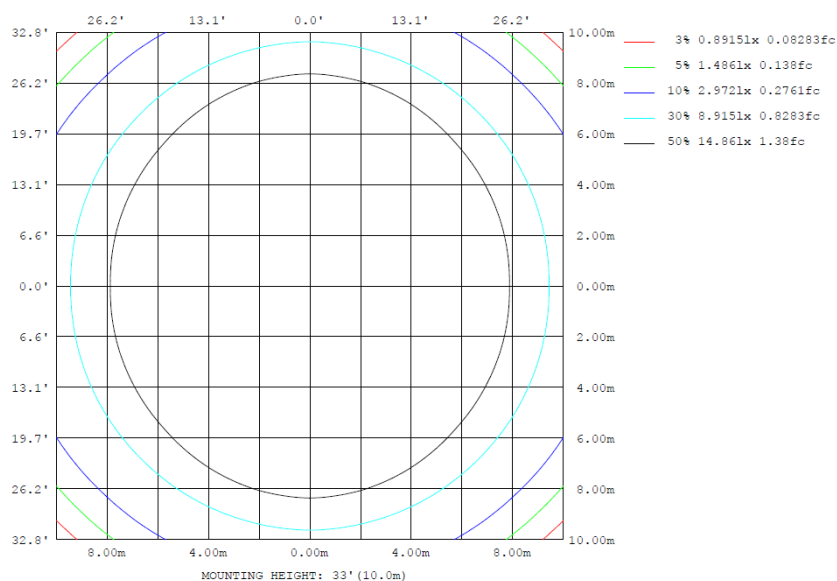
## 4.2 Goniophotometer Test

### Lighting Distribution Curve

#### LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



### Isolux Plot



## 4.2 Goniophotometer Test

### Zonal Lumen Summary

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	3030	3039	3056	3039	3030	3039	3056	3039	0- 10	286.9	286.9	4.06,4.06
20	3237	3276	3309	3276	3237	3276	3309	3276	10- 20	897.3	1184	16.7,16.7
30	3470	3563	3584	3563	3470	3563	3584	3563	20- 30	1594	2778	39.3,39.3
40	2835	2991	3285	2991	2835	2991	3285	2991	30- 40	2149	4927	69.7,69.7
50	1006	888.7	729.3	888.7	1006	888.7	729.3	888.7	40- 50	1532	6459	91.3,91.3
60	208.9	180.1	124.0	180.1	208.9	180.1	124.0	180.1	50- 60	352.8	6812	96.3,96.3
70	104.1	88.52	70.44	88.52	104.1	88.52	70.44	88.52	60- 70	121.5	6933	98,98
80	35.84	50.59	44.45	50.59	35.84	50.59	44.45	50.59	70- 80	67.02	7000	99,99
90	3.466	23.05	29.29	23.05	3.466	23.05	29.29	23.05	80- 90	33.38	7034	99.4,99.4
100	2.978	9.102	21.31	9.102	2.978	9.102	21.31	9.102	90-100	13.35	7047	99.6,99.6
110	5.100	1.779	8.321	1.779	5.100	1.779	8.321	1.779	100-110	5.630	7053	99.7,99.7
120	10.87	1.592	1.147	1.592	10.87	1.592	1.147	1.592	110-120	2.745	7055	99.8,99.8
130	11.82	2.242	1.713	2.242	11.82	2.242	1.713	2.242	120-130	2.722	7058	99.8,99.8
140	11.82	4.305	3.339	4.305	11.82	4.305	3.339	4.305	130-140	3.602	7062	99.8,99.8
150	13.68	5.712	4.397	5.712	13.68	5.712	4.397	5.712	140-150	4.141	7066	99.9,99.9
160	11.91	5.712	4.493	5.712	11.91	5.712	4.493	5.712	150-160	3.308	7069	99.9,99.9
170	23.34	8.613	7.069	8.613	23.34	8.613	7.069	8.613	160-170	2.515	7072	100,100
180	24.19	9.083	7.934	9.083	24.19	9.083	7.934	9.083	170-180	1.108	7073	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Zonal (lm)		Total (lm)		Percent
0-10	286.93	0-10	286.93	4.06%
10-20	897.28	0-20	1184.21	16.75%
20-30	1593.81	0-30	2778.02	39.28%
30-40	2148.86	0-40	4926.88	69.67%
40-50	1531.98	0-50	6458.86	91.34%
50-60	352.81	0-60	6811.67	96.32%
60-70	121.53	0-70	6933.20	98.04%
70-80	67.02	0-80	7000.22	98.99%
80-90	33.38	0-90	7033.60	99.46%
90-100	13.35	0-100	7046.95	99.65%
100-110	5.63	0-110	7052.58	99.73%
110-120	2.74	0-120	7055.32	99.77%
120-130	2.72	0-130	7058.04	99.81%
130-140	3.60	0-140	7061.64	99.86%
140-150	4.14	0-150	7065.78	99.92%
150-160	3.31	0-160	7069.09	99.96%
160-170	2.52	0-170	7071.61	100.00%
170-180	1.11	0-180	7072.72	100.02%

## 4.2 Goniophotometer Test

### Luminous Distribution Intensity Data

C (DBG)																	UNIT: cd				
γ (DBG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270		
0	2966	2967	2967	2962	2967	2965	2997	2965	2967	2962	2967	2967	2966	2967	2967	2962	2967	2965	2977		
5	2987	2991	2988	2985	2984	2991	2990	2991	2984	2985	2988	2991	2987	2991	2988	2985	2984	2991	2997		
10	3030	3040	3038	3039	3051	3056	3056	3056	3051	3039	3038	3040	3030	3040	3038	3039	3051	3056	3056		
15	3130	3131	3139	3141	3160	3169	3164	3169	3160	3141	3139	3131	3130	3131	3139	3141	3160	3169	3169		
20	3237	3257	3267	3276	3305	3316	3309	3316	3305	3276	3257	3237	3237	3257	3267	3276	3305	3316	3309		
25	3388	3409	3436	3431	3460	3474	3461	3474	3460	3431	3436	3409	3388	3409	3436	3431	3460	3474	3461		
30	3470	3515	3548	3563	3589	3603	3584	3603	3589	3563	3548	3515	3470	3515	3548	3563	3589	3603	3584		
35	3346	3395	3442	3484	3564	3626	3629	3626	3564	3484	3442	3395	3346	3395	3442	3484	3564	3626	3629		
40	2835	2883	2933	2991	3124	3231	3285	3231	3124	2991	2933	2883	2835	2883	2933	2991	3124	3231	3285		
45	2022	2040	2053	2035	2042	2044	2067	2044	2042	2035	2053	2040	2022	2040	2053	2035	2042	2044	2067		
50	1006	996	952	889	864	768	729	768	864	889	952	996	1006	996	952	889	864	768	729		
55	389	394	366	338	316	271	244	271	316	338	366	394	389	394	366	338	316	271	244		
60	209	213	195	180	162	139	124	139	162	180	195	213	209	213	195	180	162	139	124		
65	144	143	132	122	108	92.2	84.8	92.2	108	122	132	143	144	143	132	122	108	92.2	84.8		
70	104	103	97.9	88.5	79.0	68.5	70.4	68.5	79.0	88.5	97.9	103	104	103	97.9	88.5	79.0	68.5	70.4		
75	80.4	65.3	65.9	63.2	58.1	50.7	52.6	50.7	58.1	63.2	65.9	65.3	80.4	65.3	65.9	63.2	58.1	50.7	52.6		
80	35.8	37.0	47.4	50.6	54.0	48.9	44.4	48.9	54.0	50.6	47.4	37.0	35.8	37.0	47.4	50.6	54.0	48.9	44.4		
85	17.7	22.3	30.5	30.5	31.2	28.6	46.5	28.6	31.2	30.5	30.5	22.3	17.7	22.3	30.5	30.5	31.2	28.6	46.5		
90	3.47	10.5	25.0	23.1	19.1	18.6	29.3	18.6	19.1	23.1	25.0	10.5	3.47	10.5	25.0	23.1	19.1	18.6	29.3		
95	2.98	4.05	10.1	11.7	12.9	14.3	23.6	14.3	12.9	11.7	10.1	4.05	2.98	4.05	10.1	11.7	12.9	14.3	23.6		
100	2.98	2.35	4.22	9.10	13.1	16.8	21.3	16.8	13.1	9.10	4.22	2.35	2.98	2.35	4.22	9.10	13.1	16.8	21.3		
105	3.16	2.25	2.15	2.72	4.85	8.30	12.1	8.30	4.85	2.72	2.15	2.25	3.16	2.25	2.15	2.72	4.85	8.30	12.1		
110	5.10	2.25	1.97	1.78	2.47	5.35	8.32	5.35	2.47	1.78	1.97	2.25	5.10	2.25	1.97	1.78	2.47	5.35	8.32		
115	8.36	2.62	1.97	1.59	1.24	2.39	3.83	2.39	1.24	1.59	1.97	2.62	8.36	2.62	1.97	1.59	1.24	2.39	3.83		
120	10.9	3.84	1.97	1.59	1.23	1.14	1.15	1.14	1.23	1.59	1.97	3.84	10.9	3.84	1.97	1.59	1.23	1.14	1.15		
125	12.1	5.25	2.24	1.59	1.23	1.14	1.15	1.14	1.23	1.59	2.24	5.25	12.1	5.25	2.24	1.59	1.23	1.14	1.15		
130	11.8	6.75	2.90	2.24	1.80	1.71	1.71	1.71	1.80	2.24	2.90	6.75	11.8	6.75	2.90	2.24	1.80	1.71	1.71		
135	11.8	7.88	3.93	3.09	2.84	2.76	2.58	2.76	2.84	3.09	3.93	7.88	11.8	7.88	3.93	3.09	2.84	2.76	2.58		
140	11.8	9.20	4.97	4.30	4.07	4.00	3.34	4.00	4.07	4.30	4.97	9.20	11.8	9.20	4.97	4.30	4.07	4.00	3.34		
145	12.8	10.5	6.00	5.43	5.01	5.05	4.11	5.05	5.01	5.43	6.00	10.5	12.8	10.5	6.00	5.43	5.01	5.05	4.11		
150	13.7	11.0	6.38	5.71	5.58	5.52	4.40	5.52	5.58	5.71	6.38	11.0	13.7	11.0	6.38	5.71	5.58	5.52	4.40		
155	12.7	10.8	6.47	5.71	5.68	5.62	4.49	5.62	5.68	5.71	6.47	10.8	12.7	10.8	6.47	5.71	5.68	5.62	4.49		
160	11.9	10.4	6.47	5.71	5.68	5.62	4.49	5.62	5.68	5.71	6.47	10.4	11.9	10.4	6.47	5.71	5.68	5.62	4.49		
165	17.9	14.7	8.34	7.21	7.00	6.75	5.83	6.75	7.00	7.21	8.34	14.7	17.9	14.7	8.34	7.21	7.00	6.75	5.83		
170	23.3	17.4	10.1	8.61	8.04	7.71	7.07	7.71	8.04	8.61	10.1	17.4	23.3	17.4	10.1	8.61	8.04	7.71	7.07		
175	24.2	18.1	10.7	8.99	8.52	8.38	7.64	8.38	8.52	8.99	10.7	18.1	24.2	18.1	10.7	8.99	8.52	8.38	7.64		
180	24.2	18.0	10.6	9.08	8.61	8.76	7.93	8.76	8.61	9.08	10.6	18.0	24.2	18.0	10.6	9.08	8.61	8.76	7.93		

Table--2

UNIT: cd

C (DEG)	285	300	315	330	345															
γ (DEG)	0	2965	2967	2962	2967	2967														
5	2991	2984	2985	2988	2991															
10	3056	3051	3039	3038	3040															
15	3169	3160	3141	3139	3131															
20	3316	3305	3276	3267	3257															
25	3474	3460	3431	3436	3409															
30	3603	3589	3563	3548	3515															
35	3626	3564	3484	3442	3395															
40	3231	3124	2991	2933	2883															
45	2044	2042	2035	2053	2040															
50	768	864	889	952	996															
55	271	316	338	366	394															
60	139	162	180	195	213															
65	92.2	108	122	132	143															
70	68.5	79.0	88.5	97.9	103															
75	50.7	58.1	63.2	65.9	65.3															
80	48.9	54.0	50.6	47.4	37.0															
85	28.6	31.2	30.5	30.5	22.3															
90	18.6	19.1	23.1	25.0	10.5															
95	14.3	12.9	11.7	10.1	4.05															
100	16.8	13.1	9.10	4.22	2.35															
105	8.30	4.85	2.72	2.15	2.25															
110	5.35	2.47	1.78	1.97	2.25															
115	2.39	1.24	1.59	1.97	2.62															
120	1.14	1.23	1.59	1.97	3.84															
125	1.14	1.23	1.59	2.24	5.25															
130	1.71	1.80	2.24	2.90	6.75															
135	2.76	2.84	3.09	3.93	7.88															
140	4.00	4.07	4.30	4.97	9.20															
145	5.05	5.01	5.43	6.00	10.5															
150	5.52	5.58	5.71	6.38	11.0															
155	5.62	5.68	5.71	6.47	10.8															
160	5.62	5.68	5.71	6.47	10.4															
165	6.75	7.00	7.21	8.34	14.7															
170	7.71	8.04	8.61	10.1	17.4															
175	8.38	8.52	8.99	10.7	18.1															
180	8.76	8.61	9.08	10.6	18.0															

## 4.0 LM-79 Measurement and Test Results

### 4.3 THD and PF Test

<b>Model No.</b>	TKBEAM4B @50W3500K	<b>Sample ID</b>	251017004-S1
<b>Temperature (°C)</b>	25.4	<b>Humidity (%RH)</b>	41.0

<b>Test Method</b>
<p>The samples were tested according to the and ANSI C82.77: 2002 and ANSI C82.77-10:2020</p> <p>The total harmonic distortion shall be measured to the 40th order.</p> <p>The ambient temperature shall be maintained at 25±1°C. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion was calculated.</p>

### Test Results

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	iTHD(%)
120.0	60	0.404	48.0	0.991	9.62

## 5.0 Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-001	Goniophotometer System	2024-11-07	2025-11-06
NTC-F01-006	2.0 meter Integrating Sphere	2024-11-07	2025-11-06
NTC-F01-012	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-013	Standard Lamp	2024-10-28	2025-10-27
NTC-F01-031	Digital Power Meter	2025-08-04	2026-08-03
NTC-F01-019	Temperature & Humidity Meter	2024-10-29	2025-10-28

\*\*\*\*\*End of Report\*\*\*\*\*