LM-79-19 Test Report

For

RAB LIGHTING INC.

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

Track or Mono-Point Luminaires

Model Name(s): TK22M[blank, B]

Representative (Tested) Model: TK22M[blank, B] (0%,2700K)

Model Difference: N/A

Prepared by:

Alan Wang

Engineer: Alan Wang
Date: 2025-04-17

Reviewed by:

Vincent Yuan

Technical Lead: Vincent Yuan
Issue Date: 2025-04-15
Revised Date: N/A

Laboratory: Dongguan New Testing Centre Co., Ltd
Address: 3F, No. 1 the 1st North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China
Tel: 86-769-22212079
Website: http://www.ntc-cert.com

Client Information:

Applicant Name:	RAB LIGHTING INC.
Brand Name:	RAB LIGHTING
Manufacturer Name:	RAB LIGHTING INC.
Manufacturer Address:	408 W 14th St, New York, NY 10014 United States

Product Information:

Model Number:	TK22M[blank, B]
Product Type:	Track or Mono-Point Luminaires
Rating Input:	120Vac, 60Hz, 10W/15W/20W
Declared CCT:	2700K,3000K,3500K,4000K,5000K (Color Tunable)
LED Manufacturer:	Bridgelux Inc.
LED Model:	BXRV-TR-2750G-10F6-B-23

Test Information:

Standard Lamp:	Total Spectral Radiant Flux Standard Lamp, trace to NIST. 1. D908S for Gonio, luminous uncertainty 3.14% 2. D215S for Integrating Sphere, luminous uncertainty 2.86%, CCT uncertainty 3K
Date of Receipt Samples:	2024-01-06
Quantity of Receipt Samples:	1 pc
Sample Number:	250114002-S1
Test Representation:	N/A

Laboratory Information:

Test Laboratory:	Dongguan New Testing Centre Co., Ltd
Laboratory Address:	3F, No. 1 the 1st North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China
Laboratory Contact Name:	Neil Zhong
Laboratory Contact E-mail:	Neil_zhong@ntc-cert.com

Report Information:

Test Report Form:	LM-79_TRF_V1.6
Issued Date of Test Report:	2025-04-15
Revised Date of Test Report:	N/A
Test Report No.:	NTCLR25040344
Remark *(If applicable)*:	1. This report is copied from NTCLR25040099, due to the same product.

Test Specification:	
Date of Test	2025-01-08
Test Item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. THD and PF
Reference Standard	ANSI/IES LM-79:2019 Optical and Electrical Measurements of Solid-State Lighting Products – Chromaticity Uniformity Measurements ANSI C78.377-2017 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Color Rendering Properties of Light Sources CIE 15-2018 Technical Report Colorimetry ANSI IES TM-30-18 IES Method for Evaluating Light Source Color Rendition IES TM-15-11 Luminaire Classification System for Outdoor Luminaires Addendum A for IES TM-15-11 Backlight, Uplight, and Glare (BUG) Ratings ANSI C82.77-10:2020 Harmonic Emission Limits – Related Power Quality Requirements for Lighting Equipment – Solid State

Test Methods:

1. Photometric and Electrical Measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at 25 °C ± 1°C, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at required Voltage and Frequency. It was stabilized before measurement was made. Luminous Flux, Luminaire Efficacy and Zonal Lumen were calculated from the software taken at 1° vertical intervals and 15° horizonal intervals.

2. THD and PF Measurements:

The sample was tested according to the ANSI C82.77, the sample was operated at requirement Voltage and Frequency, and was stabilized before measurement. The Total Harmonic Distortion was calculated from the Digital Power Meter.

Goniophotometer Test Results (CCT Setting=2700K):

Test Condition:

Test Ambient (°C)	Test Humidity (%)	Orientation	Stabilization Time (minute)	Test Time (minute)
25.1	40.0	Face Down	90	25

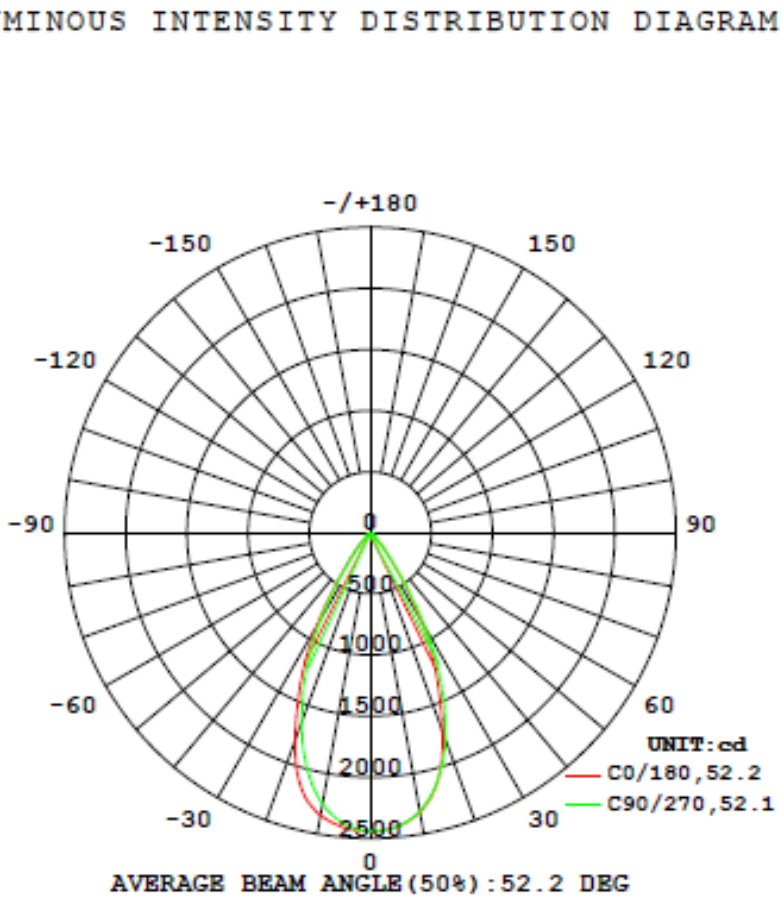
Electrical Data:

Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor
120.0	60	0.1695	19.96	0.9802

Goniophotometer Data:

Parameter	Results
Total Luminous (lm)	1800.9
Luminous Efficacy (lm/W)	90.23
Zonal Lumens Distribution (0-90°)	100.0%
Beam Angle (°)	52.2
Center Beam Intensity (cd)	2440

Luminous Intensity Distribution Diagram:

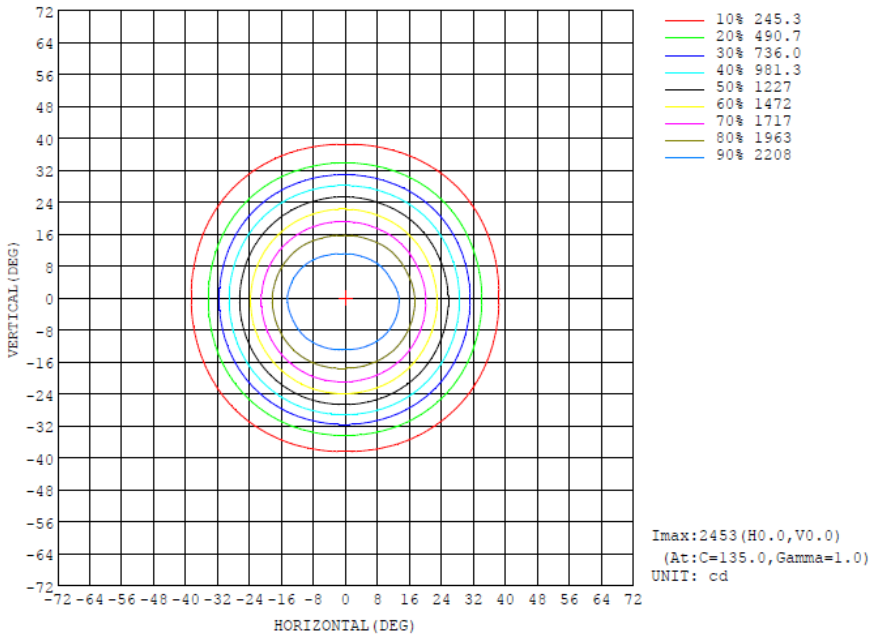


Zonal Flux Diagram:

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2320	2321	2313	2339	2348	2303	2284	2283	0- 10	227.0	227.0	12.6,12.6
20	1719	1767	1792	1833	1808	1716	1652	1668	10- 20	580.6	807.6	44.8,44.8
30	889.4	870.0	896.4	904.7	892.0	849.2	817.9	821.4	20- 30	594.6	1402	77.9,77.9
40	197.1	190.5	194.4	197.1	200.0	201.9	200.0	205.3	30- 40	282.7	1685	93.6,93.6
50	39.95	42.05	38.76	46.91	41.35	38.68	37.75	40.60	40- 50	71.99	1757	97.6,97.6
60	16.34	16.92	17.13	16.78	16.07	16.26	16.27	16.37	50- 60	28.79	1781	98.9,98.9
70	7.615	7.970	8.126	8.029	7.722	7.494	7.329	7.360	60- 70	11.82	1792	99.5,99.5
80	4.605	4.894	5.026	4.896	4.689	4.536	4.433	4.435	70- 80	6.492	1799	99.9,99.9
90	0.0050	0.0048	0.0046	0.0047	0.0024	0.0034	0.0030	0.0027	80- 90	2.885	1801	100,100
100	0.0030	0.0038	0.0024	0.0032	0.0020	0.0024	0.0013	0.0017	90-100	0.0082	1801	100,100
110	0.0019	0.0026	0.0024	0.0026	0.0011	0.0020	0.0022	0.0021	100-110	0.0028	1801	100,100
120	0.0024	0.0030	0.0024	0.0028	0.0013	0.0026	0.0021	0.0019	110-120	0.0022	1801	100,100
130	0.0030	0.0027	0.0021	0.0038	0.0026	0.0030	0.0017	0.0024	120-130	0.0021	1801	100,100
140	0.0069	0.0086	0.0079	0.0087	0.0046	0.0059	0.0048	0.0052	130-140	0.0051	1801	100,100
150	0.0178	0.0184	0.0170	0.0180	0.0119	0.0121	0.0126	0.0116	140-150	0.0061	1801	100,100
160	0.0282	0.0231	0.0297	0.0251	0.0195	0.0177	0.0194	0.0176	150-160	0.0086	1801	100,100
170	0.0217	0.0235	0.0274	0.0200	0.0214	0.0224	0.0205	160-170	0.0064	1801	100,100
180	0	0	0.0017	0	0.0013	0.0017	0.0013	0.0017	170-180	0.0019	1801	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Isocandela Diagram:



Luminous Distribution Intensity Data:

Table--1 UNIT: cd

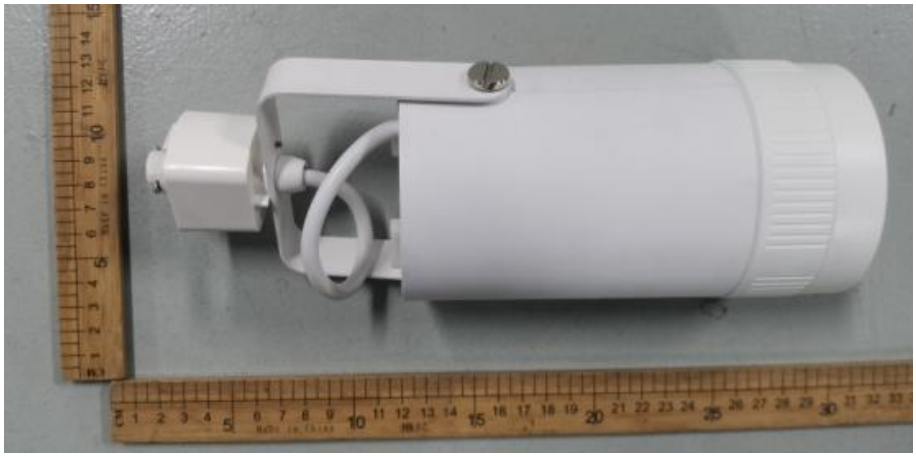
C(DEG) / γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440			
5	2415	2418	2418	2415	2415	2418	2422	2424	2421	2416	2407	2398	2393	2393	2401	2408			
10	2320	2326	2321	2316	2313	2325	2339	2352	2348	2333	2303	2271	2254	2261	2283	2302			
15	2114	2125	2128	2113	2108	2139	2172	2186	2177	2141	2094	2032	2005	2017	2058	2081			
20	1719	1742	1767	1779	1792	1820	1833	1834	1808	1763	1716	1676	1652	1648	1668	1688			
25	1283	1301	1331	1357	1376	1392	1385	1378	1355	1326	1294	1269	1255	1248	1257	1267			
30	839	852	870	886	896	907	905	903	892	871	849	830	818	814	821	833			
35	424	424	427	438	442	447	444	447	434	429	421	418	415	414	416	417			
40	197	194	191	195	194	199	197	198	200	202	202	202	200	204	205	203			
45	80.3	80.3	79.5	78.0	73.6	82.5	87.3	84.2	82.9	83.2	81.1	76.1	71.3	77.5	83.0	83.0			
50	39.9	41.3	42.0	40.7	38.8	43.3	46.9	43.7	41.4	40.1	38.7	37.2	37.8	38.6	40.6	40.7			
55	25.3	26.4	26.7	26.5	27.2	27.7	28.3	26.6	25.2	25.3	24.9	24.3	24.8	25.0	25.5	25.5			
60	16.3	16.7	16.9	17.0	17.1	17.0	16.8	16.3	16.1	16.3	16.3	16.0	16.3	16.2	16.4	16.4			
65	11.1	11.2	11.4	11.5	11.6	11.5	11.5	11.3	11.2	11.1	11.0	10.8	10.8	10.8	10.9	11.0			
70	7.61	7.79	7.97	8.10	8.13	8.12	8.03	7.90	7.72	7.61	7.49	7.38	7.33	7.30	7.36	7.44			
75	6.07	6.25	6.43	6.55	6.57	6.53	6.44	6.33	6.18	6.09	6.00	5.91	5.84	5.80	5.82	5.89			
80	4.60	4.75	4.89	5.01	5.03	5.00	4.90	4.79	4.69	4.61	4.54	4.47	4.43	4.41	4.43	4.51			
85	2.06	2.14	2.23	2.30	2.30	2.29	2.21	2.15	2.12	2.07	2.02	1.98	1.97	1.97	2.00	2.05			
90	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00			
145	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
150	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01			
155	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.02			
160	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02			
165	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02			
170	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02			
175	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

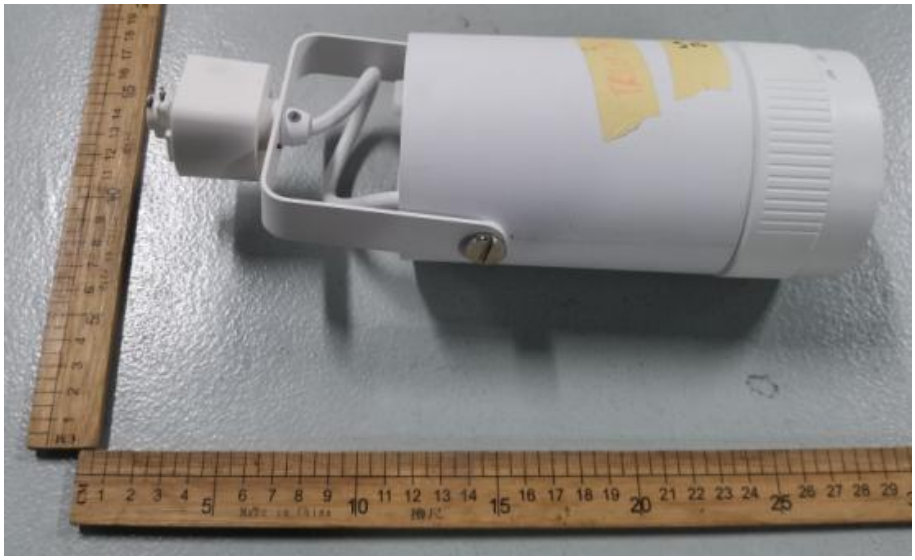
THD and PF Measurement Test Results:

Electrical Measurement:

CCT Setting	Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor	iTHD(%)
2700K	120.0	60	0.1695	19.96	0.9802	10.65

Photo of Sample:





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	2024-08-06	2025-08-05
NTC-F01-020	Temperature & Humidity Meter	2024-10-29	2025-10-28

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