



## Photometric Test Report

### Relevant Standards

IES LM-79-2008

### Prepared For

## MaxLite Inc

10 York Avenue, West Caldwell, NJ 07006

Brendan Drew, 973-244-7300 x341, bdrew@maxlite.com

### Test Laboratory & Address:

UL-CCIC Company Limited location

2, Chengwan Road, Suzhou Industrial Park, Suzhou 21522 China

### Catalog Number

TRK22D2340

### Project Number

4788381111

### Report Number

4788192811\_2

### Test Date

10/18/2017

### Issue Date

3/1/2018

Prepared By

Jonathan Xu

Approved By

Duff Yang

The results contained in this report pertain only to the tested sample.

This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.



## 1.0 Test List

Test Item	Test	Test Date	Model Number	Tests Conducted By
1	Integrating Sphere Test for the Lower CCT	10/18/2017	TRK22D2340	Elvis Wu
2	Goniophotometer Test	10/18/2017	TRK22D2340	Elvis Wu

### **Remark** (if any)

1. UL test equipment information is recorded on Meter Use in UL's Aurora database.



## 2.0 Production Description

**Luminaire Description:** Integrated Retrofit Kits for 2x2 Luminaires

**Model Number:** TRK22D2340

**Rated Voltage:** 120-277V

**Frequency:** 50/60Hz

**LED Package:** SPMWH1228xxxxxxxxx

**Housing Model Number:** Lithonia 2GT8 2 17 A12 MVOLT GEB10IS

### Photos of Luminaire Characteristics





### 3.0 LM-79 Measurement and Test Results

#### 3.1 Integrating Sphere Test for the lower CCT

Model No.	TRK22D2340		Sample ID.	1209804	
Driver No.	N/A	Operate time (Min.)	80	Stabilization time (Min.)	70

#### Test Method

1.The sample was tested according to the IES LM-79-2008 in fixture Lithonia 2GT8 2 17 A12 MVOLT GEB10IS.  
 2.Photometric paramters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25° C ± 1° C.The reference standard lamp is rated current 2.6A omni-directional Incandescent lamp and was calibrated by china seprei laboratory.  
 3.The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%.Photometric measurement conditions was using 4π geometry.The self-absorption factor is applied in the final test result.The sample was 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 780 nm.

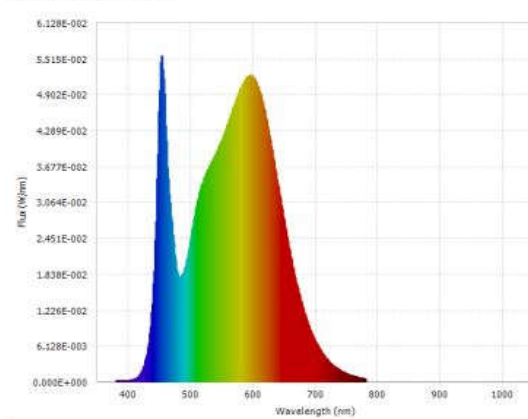
#### Integrating Sphere Test Conditions

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD
25.2	119.98	60	0.1904	22.614	0.9917	10.93%

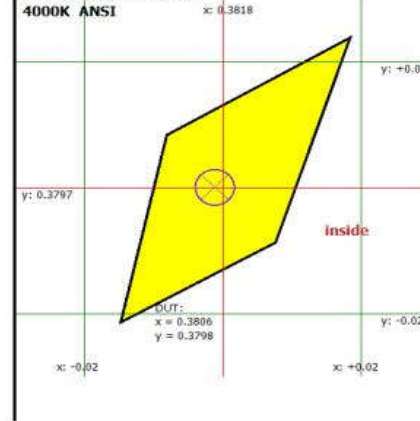
#### Test Results

Orientation	CCT (K)	CRI (Ra)	Duv	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Luminous Efficacy (lm/ft)
Horizontal	4015	83.73	0.0014	2937.4	129.89	N/A

Spectral Flux Graph



Chromaticity Diagram 4000K ANSI



Spectral Result

Luminous Flux Φ(v)	2937.42 (lm)	Chrom x	0.3806
Chrom y	0.3798	Chrom u	0.2240
Chrom v	0.3353	Duv	0.0014
Chrom u'	0.2240	Chrom v'	0.5029
CCT	4015.0 (K)	Luminous Efficacy η	129.89 (lm/W)
Ra	83.73	R1	82.1
R2	90.9	R3	96.1
R4	81.4	R5	81.9
R6	87.0	R7	85.9
R8	64.7	R9	10.6
R10	78.0	R11	80.3
R12	62.2	R13	84.5
R14	98.3	R15	75.8
Rf	82.5	Rg	94.0



### 3.0 LM-79 Measurement and Test Results

#### 3.2 Goniophotometer Test

<b>Model No.</b>	TRK22D2340		<b>Sample ID.</b>	1209804	
<b>Driver No.</b>	N/A	<b>Opreate time (Min.)</b>	80	<b>Stabilization time (Min.)</b>	70

#### Test Method

- 1.The sample was tested according to the IES LM-79-2008 in fixture Lithonia 2GT8 2 17 A12 MVOLT GEB10IS.
- 2.Photometric paramters were measured using a type C goniophotometer and software.
- 3.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 reference standard lamp is rated current 3.865A omni-directional Incandescent lamp and was calibrated by china seprei laboratory.
- 4.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 0.5° vertical intervals and 22.5° horizontal intervals..Photometric distance was more than five times of the largest dimension of the test SSL product.

#### Goniophotometer Test Conditions

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
25.2	120.03	60	0.18991	22.61	0.9921

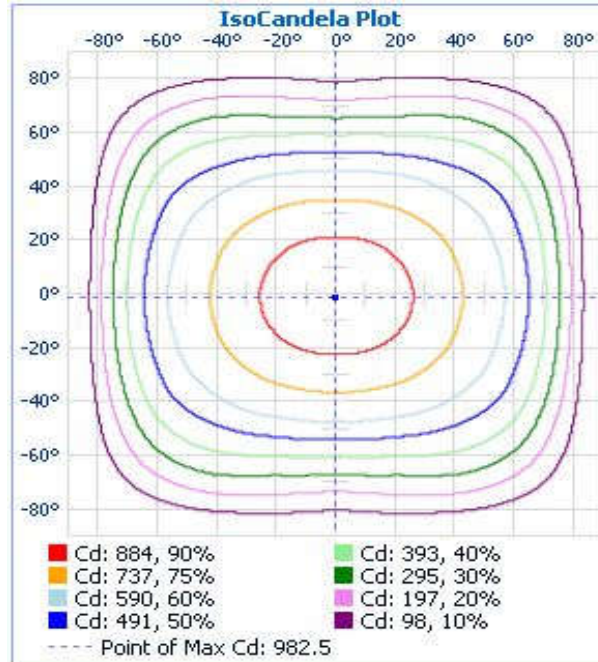
#### Test Result

Orientation	Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
Horizontal	2957.7	166.2	158.7	129.7	106.4	130.83

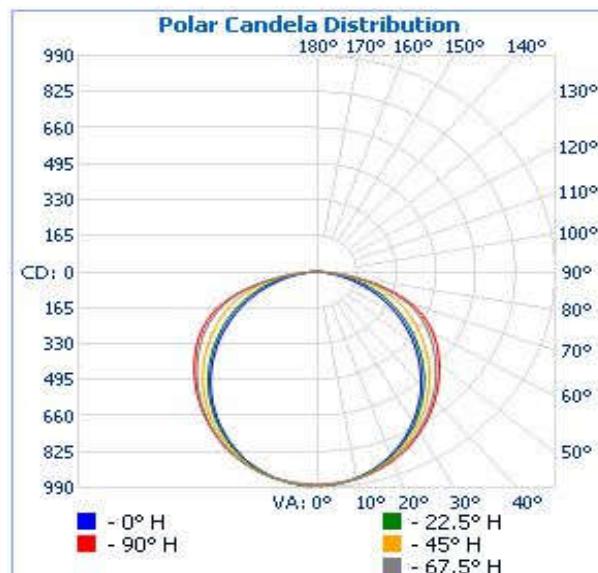


### 3.2 Goniophotometer Test (Cont'd)

#### IsoCandela Plot



#### Polar Candela Distribution





### 3.2 Goniophotometer Test (Cont'd)

#### Zonal Lumen Summary

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	760.8	25.7%
0-40	1,247.9	42.2%
0-60	2,242.1	75.8%
60-90	715.3	24.2%
70-100	315.8	10.7%
90-120	0	0%
0-90	2,957.4	100%
90-180	0	0%
0-180	2,957.4	100%

#### Lumens Per Zone

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	23.4	0.8%	90-95	0	0%
5-10	69.3	2.3%	95-100	0	0%
10-15	112.9	3.8%	100-105	0	0%
15-20	152.6	5.2%	105-110	0	0%
20-25	187.2	6.3%	110-115	0	0%
25-30	215.4	7.3%	115-120	0	0%
30-35	236.6	8.0%	120-125	0	0%
35-40	250.5	8.5%	125-130	0	0%
40-45	256.8	8.7%	130-135	0	0%
45-50	255.9	8.7%	135-140	0	0%
50-55	247.9	8.4%	140-145	0	0%
55-60	233.6	7.9%	145-150	0	0%
60-65	213.4	7.2%	150-155	0	0%
65-70	186.1	6.3%	155-160	0	0%
70-75	149.8	5.1%	160-165	0	0%
75-80	103.9	3.5%	165-170	0	0%
80-85	52.7	1.8%	170-175	0	0%
85-90	9.4	0.3%	175-180	0	0%





**3.2 Goniophotometer Test (Cont'd)**  
**Intensity Data(cd)**

	0	22.5	45	67.5	90	113	135	158	180	203	225	247.5	270	293	315	338	360
0	979	979	979	979	979	979	979	979	979	979	979	979	979	979	979	979	979
1	982	981	979	976	975	976	979	982	982	982	979	976	975	976	979	981	982
2	980	980	978	975	975	976	979	980	982	980	979	976	975	975	978	980	980
3	980	979	978	975	974	975	978	980	982	980	978	975	974	975	978	979	980
4	978	978	977	974	973	975	977	979	981	979	977	975	973	974	977	978	978
5	975	976	975	972	972	974	977	977	977	977	977	974	972	972	975	976	975
6	973	974	972	971	971	972	975	975	975	975	975	972	971	971	972	974	973
7	971	970	970	968	969	970	972	972	974	972	972	970	969	968	970	970	971
8	967	967	968	967	968	969	970	969	969	969	970	969	968	967	968	967	967
9	963	964	965	964	965	967	968	966	966	966	968	967	965	964	965	964	963
10	960	960	962	962	963	964	964	962	962	962	964	964	963	962	962	960	960
11	955	956	958	958	960	962	961	959	959	959	961	962	960	958	958	956	955
12	949	950	954	955	957	958	957	954	954	954	957	958	957	955	954	950	949
13	944	946	950	952	954	954	954	949	948	949	954	954	954	952	950	946	944
14	938	940	945	947	951	950	949	944	942	944	949	950	951	947	945	940	938
15	932	935	940	944	946	946	944	939	937	939	944	946	946	944	940	935	932
16	925	929	934	938	942	942	939	933	930	933	939	942	942	942	938	934	929
17	918	923	929	933	938	936	934	927	923	927	934	936	938	933	929	923	918
18	910	915	922	928	932	932	928	920	917	920	928	932	932	928	922	915	910
19	904	910	916	923	927	926	921	912	910	912	921	926	927	923	916	910	904
20	895	901	910	918	922	921	915	906	902	906	915	921	922	918	910	901	895
25	850	859	871	884	892	888	878	863	858	863	878	888	892	884	871	859	850
30	796	809	826	845	852	849	834	815	808	815	834	849	852	845	826	809	796
35	738	752	776	799	809	804	784	759	749	759	784	804	809	799	776	752	738
40	673	691	720	750	763	754	729	699	685	699	729	754	763	750	720	691	673
45	604	626	660	698	713	703	670	635	618	635	670	703	713	698	660	626	604
50	532	556	598	643	664	648	607	565	546	565	607	648	664	643	598	556	532
55	458	484	534	587	611	592	542	493	471	493	542	592	611	587	534	484	458
60	381	410	469	530	556	535	477	421	395	421	477	535	556	530	469	410	381
65	304	338	404	465	490	468	412	348	319	348	412	468	490	465	404	338	304
70	227	265	333	387	408	391	340	274	242	274	340	391	408	387	333	265	227
75	152	193	250	287	300	291	257	202	166	202	257	291	300	287	250	193	152
80	84	119	152	169	176	173	159	127	96	127	159	173	176	169	152	119	84
85	29	44	51	52	52	56	58	50	38	50	58	56	52	52	51	44	29
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





\*\*\*\*\* END OF REPORT. THIS PAGE INTENTIONALLY LEFT BLANK \*\*\*\*\*