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

TRK24D3340

Project Number

4788381111

Report Number

4788381111_4

Test Date

10/20/2017-10/22/2017

Issue Date

3/1/2018

Prepared By	Approved By
Jonathan Xu	Duff Yang
Jonathan Xu	Duff Yang

1.0 Test List

Test Item	Test	Test Date	Model Number	Tests Conducted By
1	Integrating Sphere Test for the Lower CCT	10/22/2017	TRK24D3340	Elvis Wu
2	Goniophotometer Test	10/20/2017	TRK24D3340	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 2x4 Luminaires
Model Number: TRK24D3340
Rated Voltage: 120-277V
Frequency: 50/60Hz
LED Package: SPMWH1228xxxxxxxxx
Housing Model Number: Lithonia 2GT8 2 32 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.	TRK24D3340		Sample ID.	1209804	
Driver No.	N/A	Opreate time (Min.)	80	Stabilization time (Min.)	70

Test Method

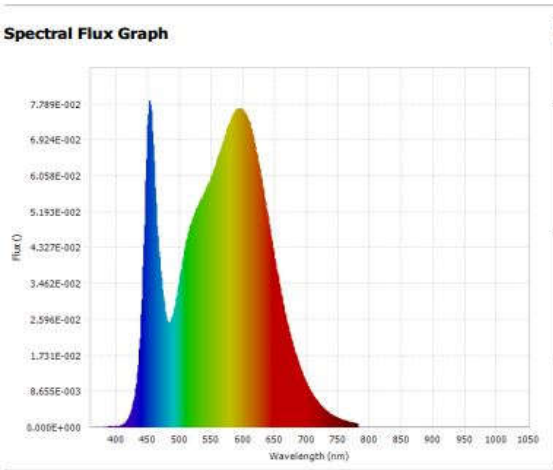
1.The sample was tested according to the IES LM-79-2008 in fixture Lithonia 2GT8 2 32 A12 MVOLT GEB10IS.
2.Photometric paramters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º C.The reference 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.

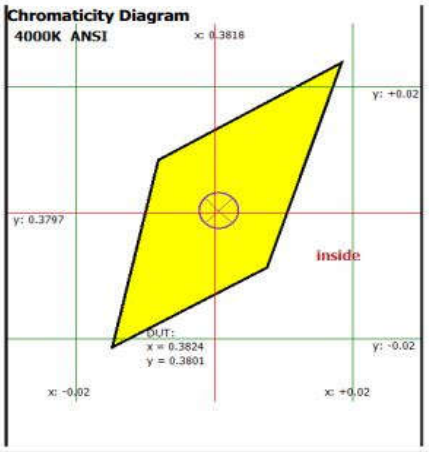
Integrating Sphere Test Conditions

Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD
25.2	120.03	60	0.2729	32.446	0.9939	9.30%

Test Results

Orientation	CCT (K)	CRI (Ra)	Duv	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Luminous Efficacy (lm/ft)
Horizontal	3968	83.46	0.001	4297.6	132.45	N/A





Spectral Result

Luminous Flux Φ(v)	4297.56 (lm)	Chrom x	0.3824
Chrom y	0.3801	Chrom u	0.2251
Chrom v	0.3355	Duv	0.001
Chrom u'	0.2251	Chrom v'	0.5033
CCT	3968.0 (K)	Luminous Efficacy η	132.45 (lm/W)
Ra	83.46	R1	81.7
R2	90.5	R3	95.9
R4	81.4	R5	81.7
R6	86.5	R7	85.7
R8	64.3	R9	9.4
R10	77.1	R11	80.3
R12	62.7	R13	84.1
R14	98.1	R15	75.5
Rf	82.5	Rg	94.4

3.0 LM-79 Measurement and Test Results

3.2 Goniophotometer Test

Model No.	TRK24D3340		Sample ID.	1209804	
Driver No.	N/A	Opreate 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 32 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

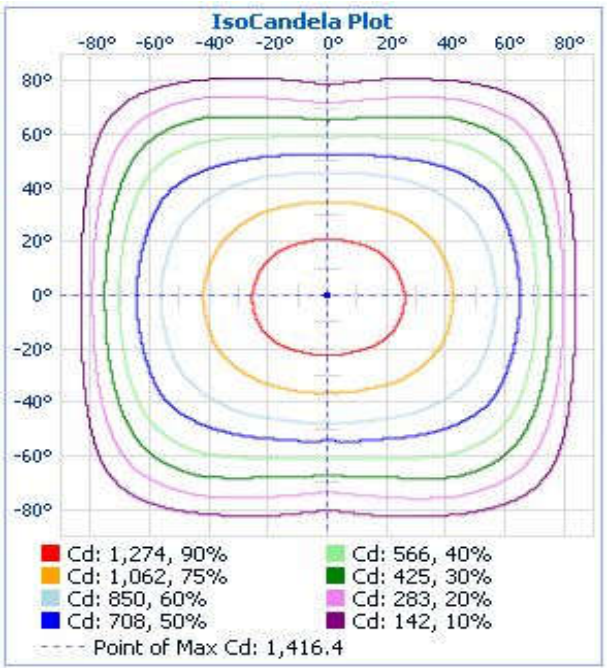
Temperature (°C)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
25.2	120.03	60	0.27208	32.46	0.9939

Test Result

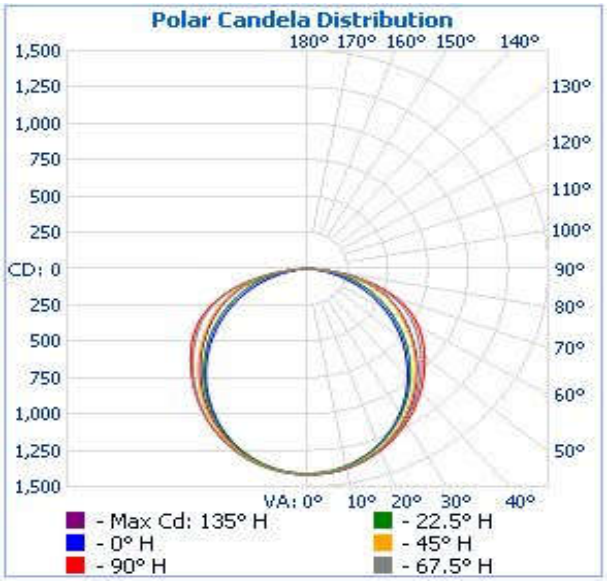
Orientation	Flux (lm)	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
		Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
Horizontal	4290.3	167.2	159	129.7	106.8	132.18

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	1,095.9	25.5%
0-40	1,796.4	41.9%
0-60	3,229.1	75.3%
60-90	1,060.8	24.7%
70-100	479.6	11.2%
90-120	0	0%
0-90	4,289.9	100%
90-180	0	0%
0-180	4,289.9	100%

Lumens Per Zone

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	33.7	0.8%	90-95	0	0%
5-10	100.0	2.3%	95-100	0	0%
10-15	162.8	3.8%	100-105	0	0%
15-20	219.9	5.1%	105-110	0	0%
20-25	269.5	6.3%	110-115	0	0%
25-30	310.0	7.2%	115-120	0	0%
30-35	340.4	7.9%	120-125	0	0%
35-40	360.2	8.4%	125-130	0	0%
40-45	369.2	8.6%	130-135	0	0%
45-50	368.1	8.6%	135-140	0	0%
50-55	357.4	8.3%	140-145	0	0%
55-60	337.9	7.9%	145-150	0	0%
60-65	309.8	7.2%	150-155	0	0%
65-70	271.4	6.3%	155-160	0	0%
70-75	220.5	5.1%	160-165	0	0%
75-80	157.4	3.7%	165-170	0	0%
80-85	84.6	2.0%	170-175	0	0%
85-90	17.1	0.4%	175-180	0	0%

3.2 Goniophotometer Test (Cont'd)

Intensity Data(cd)

	0	22.5	45	67.5	90	112.5	135	158	180	203	225	247.5	270	293	315	338	360
0	1415	1408	1414	1414	1413	1415	1416	1409	1415	1408	1414	1414	1413	1415	1416	1409	1415
1	1413	1409	1415	1414	1413	1414	1416	1408	1414	1408	1414	1414	1413	1416	1416	1407	1413
2	1412	1406	1412	1413	1412	1415	1416	1408	1414	1408	1414	1414	1413	1414	1415	1407	1412
3	1410	1405	1411	1413	1412	1414	1413	1406	1413	1406	1412	1412	1412	1413	1413	1404	1410
4	1408	1402	1409	1411	1412	1412	1413	1406	1411	1405	1411	1412	1410	1410	1411	1403	1408
5	1405	1400	1407	1408	1410	1412	1412	1404	1407	1403	1409	1410	1409	1409	1409	1399	1405
6	1402	1398	1404	1406	1409	1410	1410	1401	1404	1400	1406	1408	1405	1405	1406	1397	1402
7	1396	1393	1400	1403	1404	1407	1406	1398	1400	1396	1403	1406	1404	1403	1402	1392	1396
8	1393	1388	1397	1401	1403	1404	1403	1392	1396	1392	1399	1402	1401	1400	1397	1387	1393
9	1387	1384	1393	1395	1399	1400	1399	1388	1391	1388	1397	1399	1397	1395	1394	1384	1387
10	1380	1377	1387	1391	1394	1397	1394	1382	1385	1382	1391	1394	1393	1392	1389	1376	1380
11	1375	1371	1380	1385	1390	1391	1389	1378	1379	1375	1385	1390	1389	1387	1382	1372	1375
12	1367	1365	1375	1381	1385	1386	1384	1371	1372	1370	1380	1385	1383	1382	1376	1363	1367
13	1359	1358	1370	1374	1380	1380	1378	1364	1365	1362	1375	1381	1379	1377	1370	1359	1359
14	1351	1349	1363	1369	1374	1376	1371	1357	1357	1356	1367	1373	1373	1370	1362	1349	1351
15	1343	1341	1356	1362	1368	1369	1363	1348	1348	1348	1360	1368	1367	1363	1355	1340	1343
16	1333	1332	1347	1356	1362	1363	1356	1340	1340	1338	1353	1361	1361	1355	1347	1331	1333
17	1323	1324	1339	1348	1354	1356	1348	1331	1329	1330	1346	1354	1353	1348	1338	1323	1323
18	1313	1313	1330	1340	1347	1349	1341	1321	1318	1320	1337	1345	1347	1340	1330	1313	1313
19	1301	1303	1320	1332	1338	1339	1329	1310	1308	1310	1327	1338	1339	1332	1320	1302	1301
20	1289	1293	1311	1323	1330	1330	1322	1301	1298	1300	1318	1330	1329	1323	1312	1293	1289
25	1224	1231	1256	1272	1283	1282	1266	1241	1235	1239	1265	1282	1283	1272	1254	1232	1224
30	1148	1160	1191	1213	1225	1222	1201	1172	1161	1171	1202	1224	1227	1213	1190	1159	1148
35	1063	1080	1116	1146	1162	1160	1131	1094	1078	1093	1128	1158	1165	1146	1114	1079	1063
40	970	992	1036	1075	1097	1087	1048	1008	988	1006	1050	1086	1095	1074	1034	991	970
45	870	898	951	999	1026	1012	965	915	891	915	965	1012	1025	999	949	898	870
50	770	800	862	921	952	934	876	819	790	817	877	935	953	922	861	796	770
55	660	698	769	843	878	855	784	716	683	716	787	856	881	847	768	697	660
60	552	595	679	765	799	775	694	611	573	614	700	777	800	765	681	592	552
65	441	491	589	673	707	683	604	508	462	511	608	684	705	671	591	490	441
70	330	388	491	563	588	570	505	405	351	408	509	572	586	557	488	388	330
75	220	289	375	428	443	431	387	306	240	308	392	434	438	419	370	290	220
80	120	190	241	266	273	269	249	203	137	207	255	269	266	254	232	185	120
85	42	78	92	95	94	96	99	88	53	94	106	99	90	85	83	73	42
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

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