



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300

## Photometric Test Report

Relevant Standards  
IES LM-79-2008, IES LM-20-2013  
ANSI C82.77-2002

Prepared For  
**MSI, LLC**  
Jared Coello  
622 Banyan Trail, Suite 200  
Boca Raton, FL 33431

Catalog Number  
**zPAR30x302512T3N**  
Order Number  
10585963  
Test Number  
830258

Test Date

11/30/2014 - 12/1/2014

Prepared By

Handwritten signature of Jeffrey Lockner in black ink.

Jeffrey Lockner, Project Engineer

Approved By

Handwritten signature of Jeff A. Smith Jr. in black ink.

Jeff Smith Jr., Project Handler

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.



**Luminaire Description:** Molded plastic housing, formed aluminum heatsink patterned plastic optic / enclosure  
**Lamp:** Three white LEDs  
**Mounting:** VBU

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 2.75 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 1164 Lumens  
Efficacy: 95.4 lm/w  
CCT: 3054 K  
CRI (Ra): 83.8

**Distribution**

Total Luminaire Output: 1139 Lumens  
Luminaire Efficacy: 93.1 lm/w  
Maximum Candela: 5272 Candela

**Electrical Data at 120 VAC**

Test Temperature: 25.0 °C  
Voltage: 120.0 VAC  
Current: 0.1043 A  
Power: 12.20 W  
Power Factor: 0.976  
Frequency: 60 Hz  
Current THD: 17.2 %



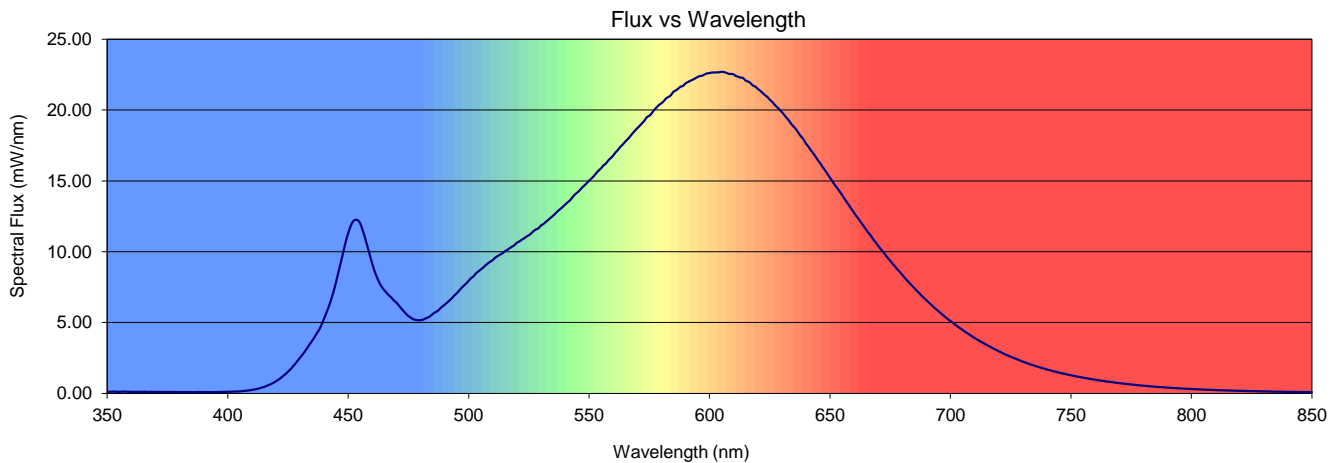
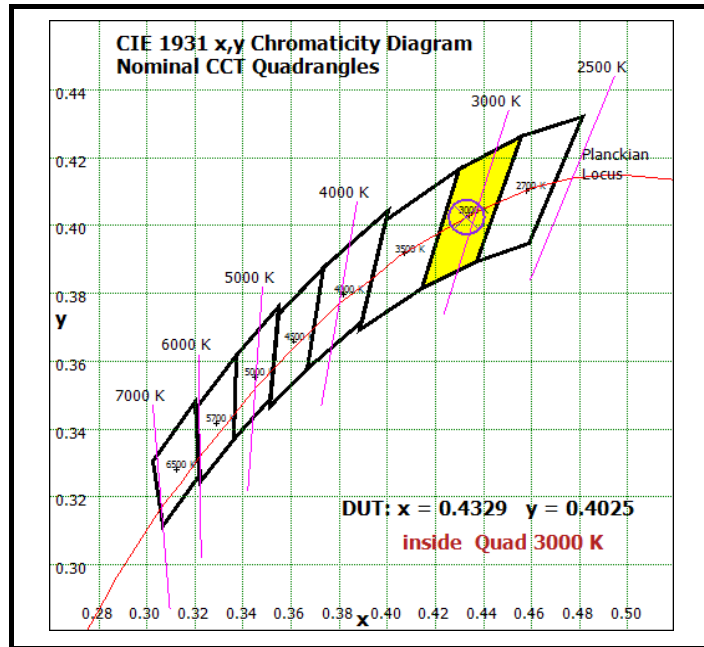
### Color Quality - Integrating Sphere

#### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.1043 A	12.20 W	0.976	60 Hz	17.2 %

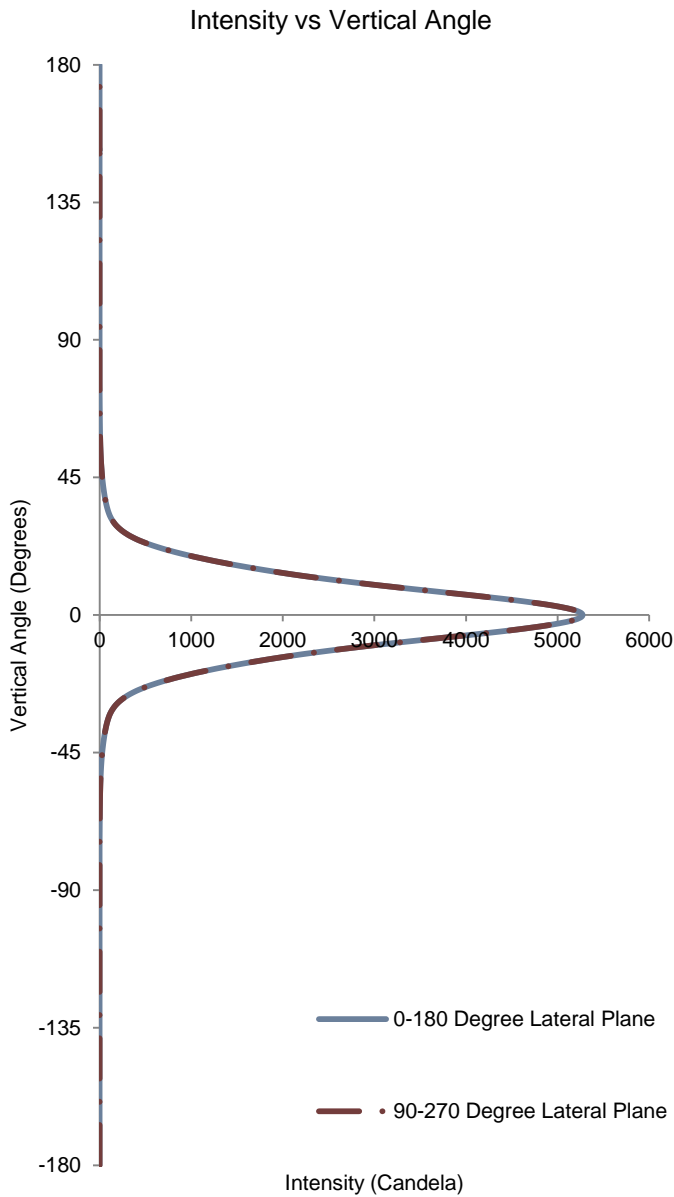
#### Summary of Results

Luminous Flux:	1164 Lumens
Efficacy:	95.4 lm/w
CCT:	3054 K
CRI (Ra):	83.8
CRI (R9):	18.3
Chromaticity (x):	0.4329
Chromaticity (y):	0.4025
Chromaticity (u):	0.2487
Chromaticity (v):	0.3468
Chromaticity (u')	0.2487
Chromaticity (v')	0.5202
Duv:	0.0001





### Distribution - Goniophotometer



Test Conditions	
Test Temperature:	24.6 °C
Voltage:	120.0 VAC
Current:	0.1046 A
Power:	12.24 W
Power Factor:	0.976
Frequency:	60 Hz
Current THD:	17.2 %
Total Lumen Output: 1139 Lumens	
Luminaire Efficacy: 93.1 Lumens/Watt	
CIE Type: Direct	
Spacing Criterion: 0.38 All Directions	
Center Beam Intensity: 5272 Candela	
Central Cone Intensity: 4986 Candela	
Beam Flux: 441.9 Lumens	
Beam Angle 0-180: 22.4 Degrees	
Beam Angle 90-270: 22.4 Degrees	
Field Angle 0-180: 46.6 Degrees	
Field Angle 90-270: 46.6 Degrees	

Data was acquired using the calibrated photodetector method of absolute photometry.



Candela Tabulation  
 Lateral Angle (Degrees)

Vertical Angle (Degrees)

	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	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272	5272
1	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237	5237
2	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134	5134
3	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966	4966
4	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746	4746
5	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489	4489
6	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197	4197
7	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889	3889
8	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575	3575
9	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266	3266
10	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965	2965
11	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684	2684
12	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419	2419
13	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172	2172
14	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948	1948
15	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740
16	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546	1546
17	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366	1366
18	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198
19	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042	1042
20	902	902	902	902	902	902	902	902	902	902	902	902	902	902	902	902
25	389	389	389	389	389	389	389	389	389	389	389	389	389	389	389	389
30	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
35	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83
40	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
45	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
50	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
55	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
60	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
65	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	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
100	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
110	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
120	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
130	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
140	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
150	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
160	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
170	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
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **											
0	1389	1389	1389	1389	1356	1356	1356	1356	1325	1325	1325	1325
1	1337	1309	1283	1261	1308	1283	1261	1240	1281	1259	1239	1221
2	1287	1239	1200	1167	1263	1220	1184	1154	1239	1201	1169	1141
3	1241	1180	1133	1096	1220	1164	1121	1087	1199	1149	1110	1078
4	1198	1128	1077	1038	1179	1115	1068	1032	1161	1103	1060	1026
5	1158	1081	1028	990	1141	1071	1022	986	1125	1061	1016	982
6	1121	1040	987	949	1106	1032	982	946	1092	1024	977	943
7	1086	1003	950	913	1073	996	946	911	1060	989	942	909
8	1053	969	917	881	1041	963	913	879	1030	957	910	878
9	1022	937	886	852	1012	933	884	851	1002	928	881	850
10	994	909	859	826	984	905	857	825	975	901	855	824

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **										
0	1266	1266	1266	1266	1212	1212	1212	1162	1162	1162	1139
1	1231	1213	1198	1184	1172	1160	1148	1133	1124	1116	1096
2	1195	1165	1139	1117	1132	1112	1093	1102	1086	1071	1054
3	1161	1121	1088	1062	1095	1068	1046	1070	1049	1030	1015
4	1128	1080	1044	1015	1059	1028	1003	1039	1014	992	978
5	1096	1043	1004	973	1026	992	965	1009	981	958	944
6	1066	1008	967	937	994	958	931	981	950	925	913
7	1037	976	935	904	964	927	900	953	921	896	884
8	1009	946	904	875	936	899	871	927	893	868	856
9	983	919	877	847	910	872	845	902	868	842	831
10	958	893	851	822	885	847	820	878	844	818	808

Average Luminance Table (cd/m<sup>2</sup>)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degree)	0	1376000	1376000	1376000
	45	10670	10670	10670
	55	3997	3997	3997
	65	1733	1733	1733
	75	190	190	190
	85	0	0	0

This test was conducted using photometry techniques according to standard IES procedures. The user must therefore use caution in the following situations: 1) This test was performed using a specific ballast/lamp combination. Extrapolation of this data for other ballast/lamp combinations may produce erroneous results. 2) This test was conducted in a controlled laboratory environment where the ambient temperature was held at 25°C ±1°C. Field performance may differ particularly in regards to change in luminous output as a result of difference in ambient temperature and method of mounting the luminaire.



Zonal Lumen Tabulation (5 degree zones)

Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens	Zone (Degrees)	Lumens
0-5	116.5	45-50	8.9	90-95	0	135-140	0
5-10	261.1	50-55	5.3	95-100	0	140-145	0
10-15	269.8	55-60	3.0	100-105	0	145-150	0
15-20	210.1	60-65	1.8	105-110	0	150-155	0
20-25	127.6	65-70	1.1	110-115	0	155-160	0
25-30	64.2	70-75	0.4	115-120	0	160-165	0
30-35	33.7	75-80	0.0	120-125	0	165-170	0
35-40	21.5	80-85	0	125-130	0	170-175	0
40-45	14.2	85-90	0	130-135	0	175-180	0

Polar Plot (Candela)

