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## Photometric Test Report

### Relevant Standards

IES LM-79-2008, ANSI C82.77-2002, CIE 13.3-1995  
CIE 15-2004, ANSI C78.377-2015, IES TM-30-2015

### Prepared For

## Picasso Lighting Industries

46 Sellers St  
Kearny, NJ 07032-4216  
United States

### Catalog Number

**MED-R-168W-334K-R3A3E10-90-S-ZT-UE (Exam Light Only)**

Order Number

11944942

Test Number

11944942.03

Test Date

2017-09-22

Prepared By

Javier Caban, Technician

Approved By

Kevin Rodriguez, Technician

The results contained in this report pertain only to the tested sample.  
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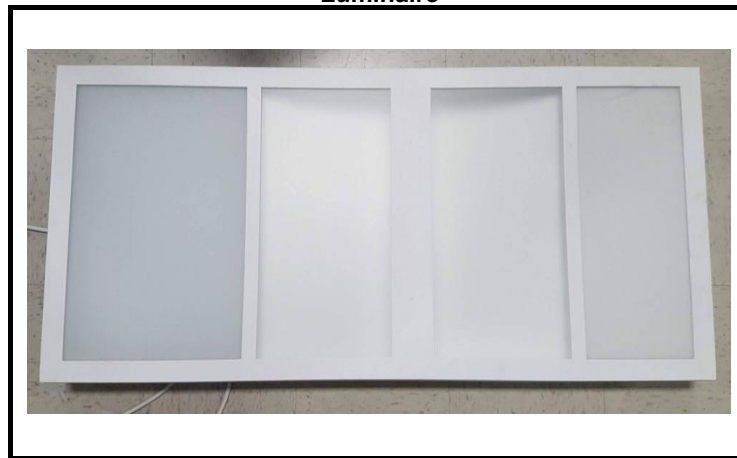
Laboratory results may not be representative of field performance  
Ballast factors have not been applied

Testing was performed in a 3-meter integrating sphere using the  $4\pi$  geometry method.  
Absorption correction was employed for Sphere measurement



**Luminaire Description:** White formed steel housing, frosted plastic lens enclosure  
**Lamp:** 240 white LEDs  
**Mounting:** Recessed  
**Ballast/Driver:** Two Philips XI054C150V054BST1 drivers

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 20.50 in.  
Luminous Width: 44.50 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 7580 Lumens  
Efficacy: 77.2 lm/w  
CCT: 4179 K  
CRI (Ra): 93.2

**Distribution**

Total Luminaire Output: 7285 Lumens  
Luminaire Efficacy: 74.2 lm/w  
Maximum Candela: 2580 Candela

**Electrical Data at 120 VAC**

Test Temperature: 25.1 °C  
Voltage: 120.0 VAC  
Current: 0.8200 A  
Power: 98.18 W  
Power Factor: 0.997  
Frequency: 60 Hz  
Current THD: 6.24 %



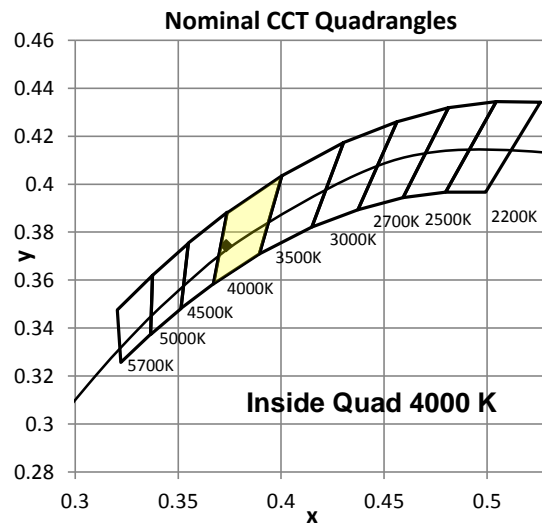
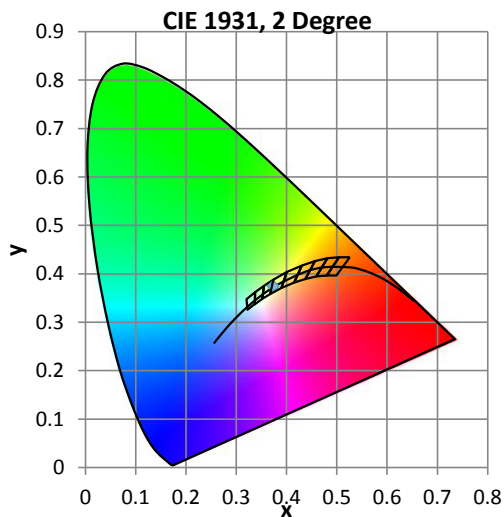
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.0 VAC	0.8200 A	98.18 W	0.997	60 Hz	6.24 %

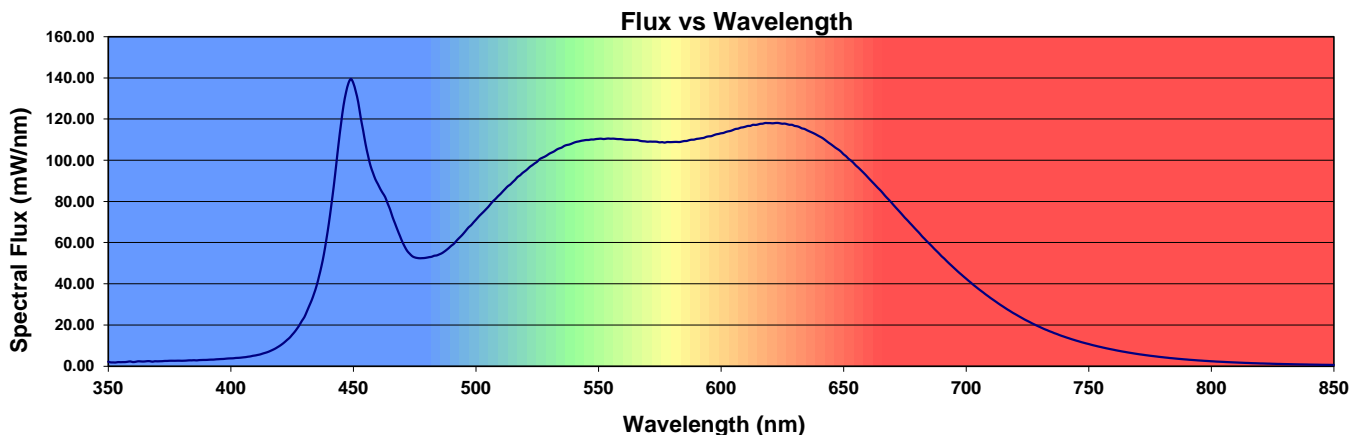
### Summary of Results

<b>Total Output:</b>	7580 Lumens	<b>Chromaticity (x):</b>	0.3734
<b>Efficacy:</b>	77.2 lm/w	<b>Chromaticity (y):</b>	0.3744
<b>CCT:</b>	4179 K	<b>Chromaticity (u'):</b>	0.2214
<b>CRI (Ra):</b>	93.2	<b>Chromaticity (v'):</b>	0.4995
<b>CRI (R9):</b>	75.4	<b>TM-30 Rf:</b>	90.6
<b>Peak Wavelength:</b>	449 nm	<b>TM-30 Rg:</b>	99.8
<b>Dominant Wavelength:</b>	577.8 nm	<b>Duv:</b>	0.0007
<b>S/P Ratio:</b>	1.819		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93.2	93.9	94.3	92.4	94.0	92.5	90.6	96.5	91.4	75.4	84.6	92.8	71.8	93.9	95.2





## Distribution - Goniophotometer

### Distribution Test Conditions

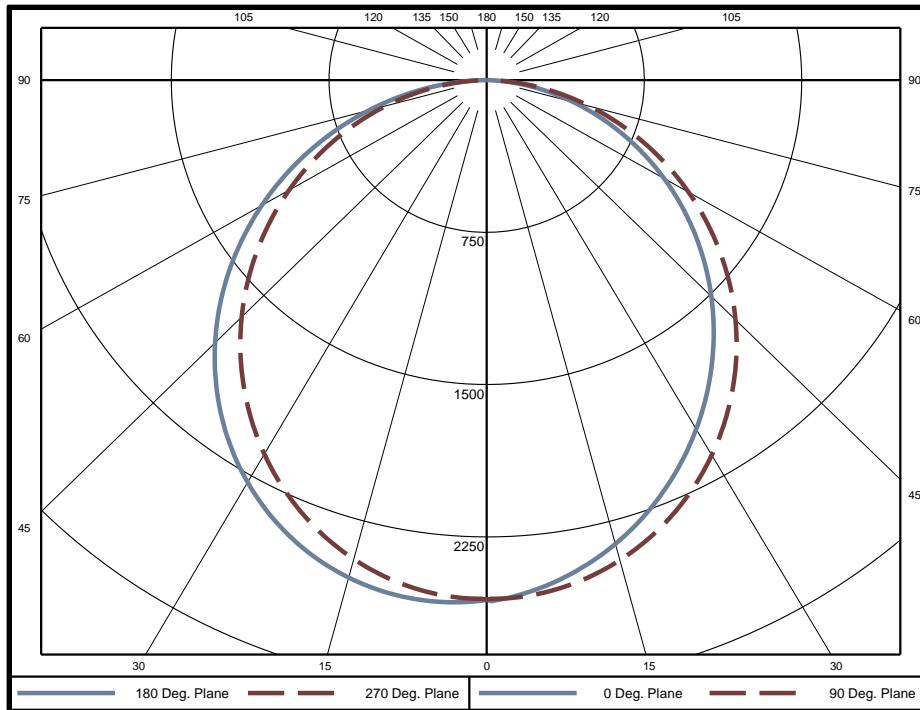
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.0 VAC	0.8208 A	98.22 W	0.997	60 Hz	6.30 %

### Summary of Results

**Spacing Criteria**  
 0-180: 1.17  
 90-270: 1.24

**Total Lumen Output:** 7285 Lumens  
**Luminaire Efficacy:** 74.2 lm/w  
**Maximum Candela:** 2580 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	61.0	0.8%	60-65	491.6	6.7%	120-125	0	0.0%
5-10	180.9	2.5%	65-70	410.9	5.6%	125-130	0	0.0%
10-15	294.0	4.0%	70-75	320.0	4.4%	130-135	0	0.0%
15-20	396.6	5.4%	75-80	223.2	3.1%	135-140	0	0.0%
20-25	484.9	6.7%	80-85	125.3	1.7%	140-145	0	0.0%
25-30	556.3	7.6%	85-90	34.4	0.5%	145-150	0	0.0%
30-35	608.5	8.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	640.1	8.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	650.4	8.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	639.8	8.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	608.6	8.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	558.4	7.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	3222	44.2%
0-60	5680	78.0%
0-90	7285	100.0%
90-180	0	0.0%



**Candela Tabulation**  
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal 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	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559	2559
5	2524	2523	2526	2533	2545	2556	2566	2572	2579	2572	2566	2556	2545	2533	2526	2523
10	2456	2457	2467	2485	2508	2530	2549	2562	2572	2562	2549	2530	2508	2485	2467	2457
15	2366	2369	2386	2414	2447	2480	2507	2527	2539	2527	2507	2480	2447	2414	2386	2369
20	2258	2263	2286	2321	2363	2405	2441	2466	2480	2466	2441	2405	2363	2321	2286	2263
25	2132	2139	2167	2208	2258	2308	2351	2382	2396	2382	2351	2308	2258	2208	2167	2139
30	1993	2001	2032	2078	2135	2191	2239	2273	2289	2273	2239	2191	2135	2078	2032	2001
35	1843	1851	1884	1934	1994	2055	2107	2143	2159	2143	2107	2055	1994	1934	1884	1851
40	1683	1691	1725	1775	1838	1901	1955	1994	2009	1994	1955	1901	1838	1775	1725	1691
45	1516	1523	1557	1607	1670	1732	1788	1826	1841	1826	1788	1732	1670	1607	1557	1523
50	1343	1350	1382	1430	1491	1552	1605	1642	1657	1642	1605	1552	1491	1430	1382	1350
55	1164	1171	1200	1245	1303	1360	1410	1446	1458	1446	1410	1360	1303	1245	1200	1171
60	982	988	1015	1056	1108	1160	1205	1239	1250	1239	1205	1160	1108	1056	1015	988
65	800	805	828	864	910	955	996	1024	1035	1024	996	955	910	864	828	805
70	617	622	642	672	710	748	781	805	814	805	781	748	710	672	642	622
75	438	442	458	483	514	543	568	586	594	586	568	543	514	483	458	442
80	267	271	282	302	323	344	361	373	378	373	361	344	323	302	282	271
85	107	110	117	130	144	156	164	170	173	170	164	156	144	130	117	110
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

**Average Luminance (cd/m<sup>2</sup>)**  
Horizontal Angle (Degrees)

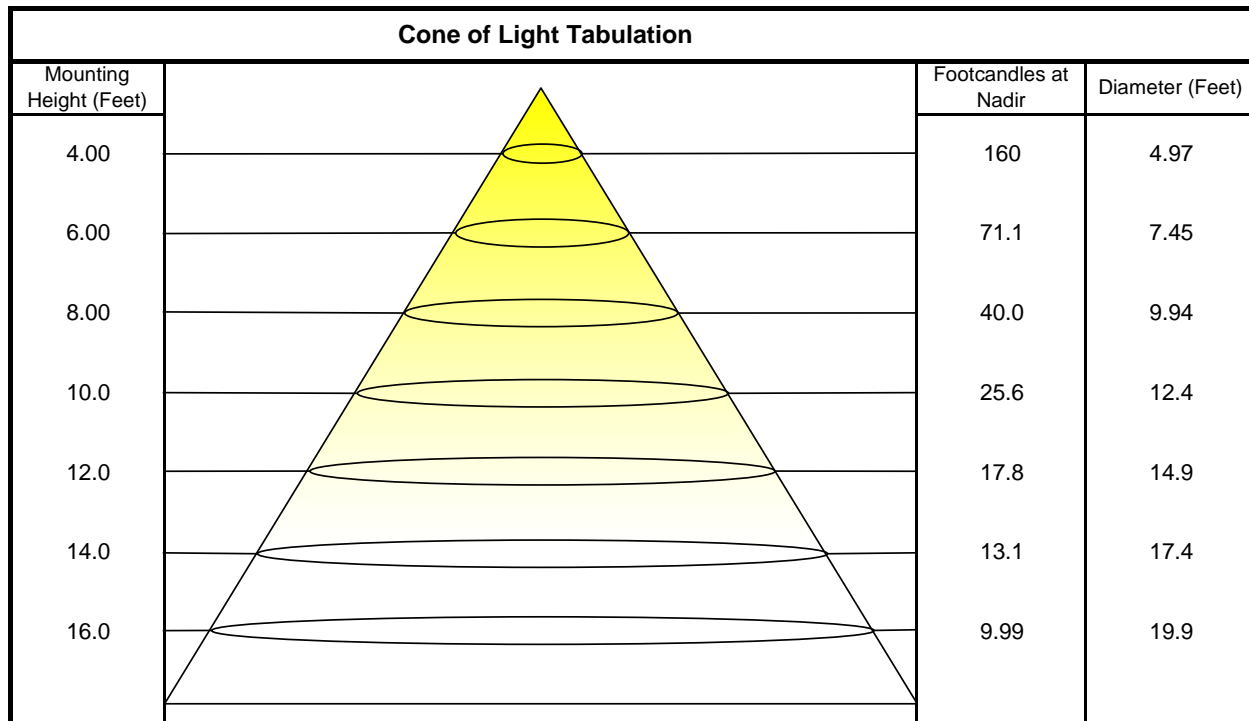
Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	4347	4347	4347
45	3643	3741	4012
55	3448	3555	3858
65	3214	3330	3657
75	2877	3009	3374
85	2083	2285	2802



### Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	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	8672	8672	8672	8672	8471	8471	8471	8471	8094	8094	8094	7750	7750	7750	7434	7434	7434	7285
1	7903	7547	7227	6939	7704	7381	7090	6826	7070	6829	6609	6784	6588	6406	6520	6363	6215	6061
2	7176	6564	6057	5630	6983	6425	5959	5563	6165	5772	5432	5925	5596	5307	5703	5431	5188	5028
3	6535	5755	5151	4669	6353	5639	5078	4626	5420	4939	4543	5217	4807	4463	5030	4683	4386	4224
4	5980	5094	4445	3949	5810	4996	4390	3921	4812	4284	3866	4640	4183	3812	4481	4087	3760	3600
5	5497	4548	3886	3397	5342	4466	3843	3377	4310	3761	3339	4165	3682	3302	4030	3606	3266	3109
6	5075	4094	3435	2962	4934	4024	3401	2949	3891	3336	2922	3768	3273	2895	3652	3212	2869	2717
7	4705	3711	3066	2615	4577	3651	3039	2605	3538	2986	2585	3432	2935	2565	3332	2886	2546	2400
8	4379	3386	2761	2331	4264	3335	2739	2324	3237	2695	2309	3146	2654	2294	3060	2613	2279	2139
9	4092	3107	2504	2097	3987	3063	2486	2091	2979	2450	2080	2900	2416	2068	2825	2382	2057	1923
10	3836	2867	2287	1901	3742	2829	2272	1897	2756	2242	1888	2687	2213	1879	2622	2185	1870	1741

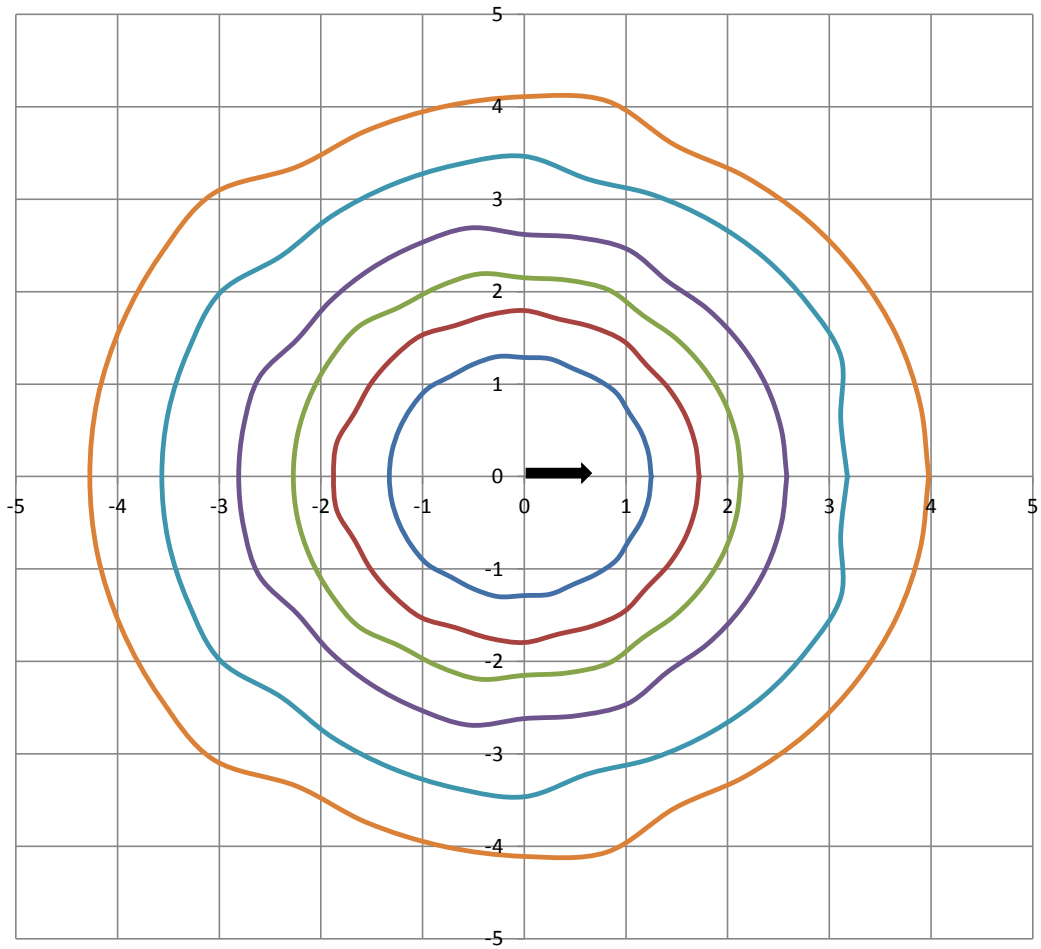
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	2559 Candela
Central Cone Intensity:	2555 Candela
Beam Flux:	5201.3 Lumens
Beam Angle (0-180):	111.1 Degrees
Beam Angle (90-270):	111.2 Degrees
Field Angle (0-180):	163.3 Degrees
Field Angle (90-270):	163.7 Degrees





# ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

