



UL Verification Services Inc.  
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Allentown, PA 18106  
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## Indoor Distribution Test Report

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

Prepared For  
**Picasso Lighting Industries**

46 Sellers St  
Kearny, NJ 07032-4216

Catalog Number  
**STR-LED-108-4'-28W-30K-SM-D10-UE**

Order Number  
11532175  
Test Number  
11532175.04

Test Date

2016-11-21

Prepared By

Derek Smarr, Technician

Approved By

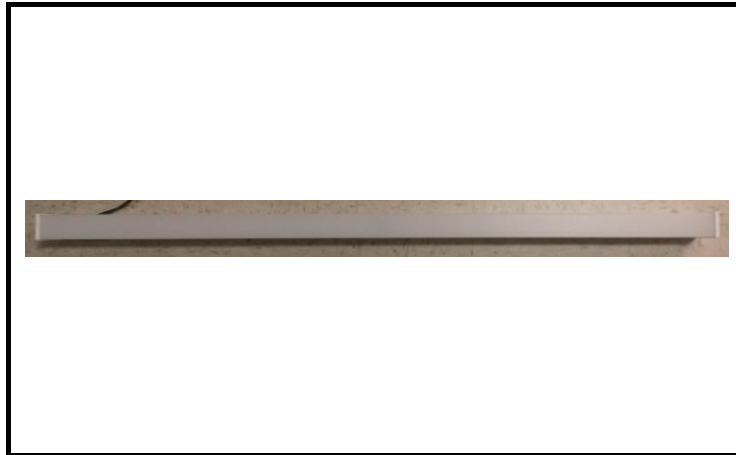
Timothy Wagner, Project Handler

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**Luminaire Description:** White enamel aluminum housing, frosted plastic lens enclosure  
**Lamp:** 96 white LEDs  
**Mounting:** Surface mount  
**Ballast/Driver:** Philips XI054C150V054BST1

### Luminaire



### Luminaire Characteristics

Luminous Length: 47.88 in.  
Luminous Width: 1.750 in.  
Luminous Height: 1.25 in.

### Summary of Results

Total Luminaire Output: 2888 Lumens  
Luminaire Efficacy: 120.1 lm/w  
Maximum Candela: 685 Candela

### Test Conditions

Test Temperature: 24.8 °C  
Voltage: 120.1 VAC  
Current: 0.2027 A  
Power: 24.06 W  
Power Factor: 0.989  
Frequency: 60 Hz  
Current THD: 12.8 %

Laboratory results may not be representative of field performance  
Ballast factors have not been applied



## Distribution - Goniophotometer

### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.1 VAC	0.2027 A	24.06 W	0.989	60 Hz	12.8 %

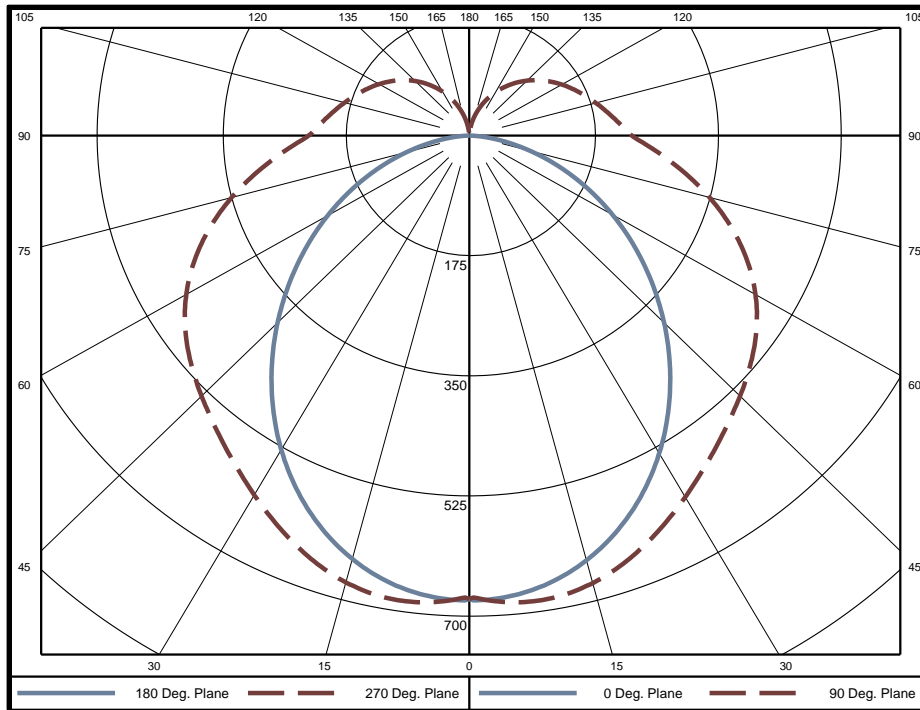
### Summary of Results

**Spacing Criteria**  
 0-180: 1.18  
 90-270: 1.18

**Total Lumen Output:**  
**Luminaire Efficacy:**  
**Maximum Candela:**

2888 Lumens  
 120.1 lm/w  
 685 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	16.3	0.6%	60-65	167.0	5.8%	120-125	39.5	1.4%
5-10	48.6	1.7%	65-70	153.2	5.3%	125-130	34.0	1.2%
10-15	79.6	2.8%	70-75	136.3	4.7%	130-135	28.5	1.0%
15-20	107.7	3.7%	75-80	117.4	4.1%	135-140	23.1	0.8%
20-25	131.9	4.6%	80-85	98.5	3.4%	140-145	18.0	0.6%
25-30	151.5	5.2%	85-90	81.3	2.8%	145-150	13.3	0.5%
30-35	166.5	5.8%	90-95	71.5	2.5%	150-155	9.3	0.3%
35-40	176.9	6.1%	95-100	66.4	2.3%	155-160	5.9	0.2%
40-45	183.0	6.3%	100-105	61.3	2.1%	160-165	3.2	0.1%
45-50	185.1	6.4%	105-110	56.0	1.9%	165-170	1.3	0.0%
50-55	183.1	6.3%	110-115	50.6	1.8%	170-175	0.3	0.0%
55-60	177.1	6.1%	115-120	45.1	1.6%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	879	30.4%
0-60	1607	55.7%
0-90	2361	81.8%
90-180	527	18.3%



**Candela Tabulation**  
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	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9	674.9
5	672.9	680.8	683.4	683.7	682.4	683.7	683.4	680.8	672.9	680.8	683.4	683.7	682.4	683.7	683.4	680.8
10	660.2	672.5	680.3	684.0	683.4	684.0	680.3	672.5	660.2	672.5	680.3	684.0	683.4	684.0	680.3	672.5
15	638.8	655.8	668.0	674.6	673.9	674.6	668.0	655.8	638.8	655.8	668.0	674.6	673.9	674.6	668.0	655.8
20	609.8	631.4	648.3	657.1	655.6	657.1	648.3	631.4	609.8	631.4	648.3	657.1	655.6	657.1	648.3	631.4
25	573.4	600.3	622.3	633.9	631.7	633.9	622.3	600.3	573.4	600.3	622.3	633.9	631.7	633.9	622.3	600.3
30	531.6	563.4	591.8	607.3	606.1	607.3	591.8	563.4	531.6	563.4	591.8	607.3	606.1	607.3	591.8	563.4
35	485.0	522.5	558.0	579.6	580.5	579.6	558.0	522.5	485.0	522.5	558.0	579.6	580.5	579.6	558.0	522.5
40	435.4	478.9	522.4	552.3	557.1	552.3	522.4	478.9	435.4	478.9	522.4	552.3	557.1	552.3	522.4	478.9
45	384.2	433.5	486.4	525.8	535.5	525.8	486.4	433.5	384.2	433.5	486.4	525.8	535.5	525.8	486.4	433.5
50	332.6	387.5	449.7	499.2	513.7	499.2	449.7	387.5	332.6	387.5	449.7	499.2	513.7	499.2	449.7	387.5
55	281.3	341.3	412.4	470.8	490.2	470.8	412.4	341.3	281.3	341.3	412.4	470.8	490.2	470.8	412.4	341.3
60	230.9	295.3	373.7	439.3	461.7	439.3	373.7	295.3	230.9	295.3	373.7	439.3	461.7	439.3	373.7	295.3
65	182.2	250.1	334.5	403.9	427.9	403.9	334.5	250.1	182.2	250.1	334.5	403.9	427.9	403.9	334.5	250.1
70	134.8	205.8	294.2	364.9	389.4	364.9	294.2	205.8	134.8	205.8	294.2	364.9	389.4	364.9	294.2	205.8
75	90.5	163.3	254.0	323.4	347.3	323.4	254.0	163.3	90.5	163.3	254.0	323.4	347.3	323.4	254.0	163.3
80	50.7	124.7	215.2	281.4	303.8	281.4	215.2	124.7	50.7	124.7	215.2	281.4	303.8	281.4	215.2	124.7
85	18.4	92.2	180.4	242.0	262.3	242.0	180.4	92.2	18.4	92.2	180.4	242.0	262.3	242.0	180.4	92.2
90	0.0	68.3	152.2	208.8	227.0	208.8	152.2	68.3	0.0	68.3	152.2	208.8	227.0	208.8	152.2	68.3
95	0.0	63.8	142.4	193.9	210.1	193.9	142.4	63.8	0.0	63.8	142.4	193.9	210.1	193.9	142.4	63.8
100	0.0	60.3	133.8	181.0	195.9	181.0	133.8	60.3	0.0	60.3	133.8	181.0	195.9	181.0	133.8	60.3
105	0.0	56.3	125.5	169.5	183.0	169.5	125.5	56.3	0.0	56.3	125.5	169.5	183.0	169.5	125.5	56.3
110	0.0	52.6	117.3	158.3	171.4	158.3	117.3	52.6	0.0	52.6	117.3	158.3	171.4	158.3	117.3	52.6
115	0.0	48.6	109.1	147.7	159.9	147.7	109.1	48.6	0.0	48.6	109.1	147.7	159.9	147.7	109.1	48.6
120	0.0	44.4	100.5	136.8	148.9	136.8	100.5	44.4	0.0	44.4	100.5	136.8	148.9	136.8	100.5	44.4
125	0.0	40.5	92.1	126.0	137.2	126.0	92.1	40.5	0.0	40.5	92.1	126.0	137.2	126.0	92.1	40.5
130	0.0	36.3	83.3	114.8	125.4	114.8	83.3	36.3	0.0	36.3	83.3	114.8	125.4	114.8	83.3	36.3
135	0.0	32.0	74.3	102.9	112.7	102.9	74.3	32.0	0.0	32.0	74.3	102.9	112.7	102.9	74.3	32.0
140	0.0	26.5	65.0	90.9	100.0	90.9	65.0	26.5	0.0	26.5	65.0	90.9	100.0	90.9	65.0	26.5
145	0.0	21.1	55.4	78.2	86.2	78.2	55.4	21.1	0.0	21.1	55.4	78.2	86.2	78.2	55.4	21.1
150	0.0	16.0	45.8	65.3	72.3	65.3	45.8	16.0	0.0	16.0	45.8	65.3	72.3	65.3	45.8	16.0
155	0.0	11.0	36.2	52.2	58.4	52.2	36.2	11.0	0.0	11.0	36.2	52.2	58.4	52.2	36.2	11.0
160	0.0	6.8	25.1	39.2	44.0	39.2	25.1	6.8	0.0	6.8	25.1	39.2	44.0	39.2	25.1	6.8
165	0.0	3.1	14.0	26.7	30.1	26.7	14.0	3.1	0.0	3.1	14.0	26.7	30.1	26.7	14.0	3.1
170	0.0	0.5	5.9	14.1	16.5	14.1	5.9	0.5	0.0	0.5	5.9	14.1	16.5	14.1	5.9	0.5
175	0.0	0.0	0.4	3.2	4.6	3.2	0.4	0.0	0.0	0.0	0.4	3.2	4.6	3.2	0.4	0.0
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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)

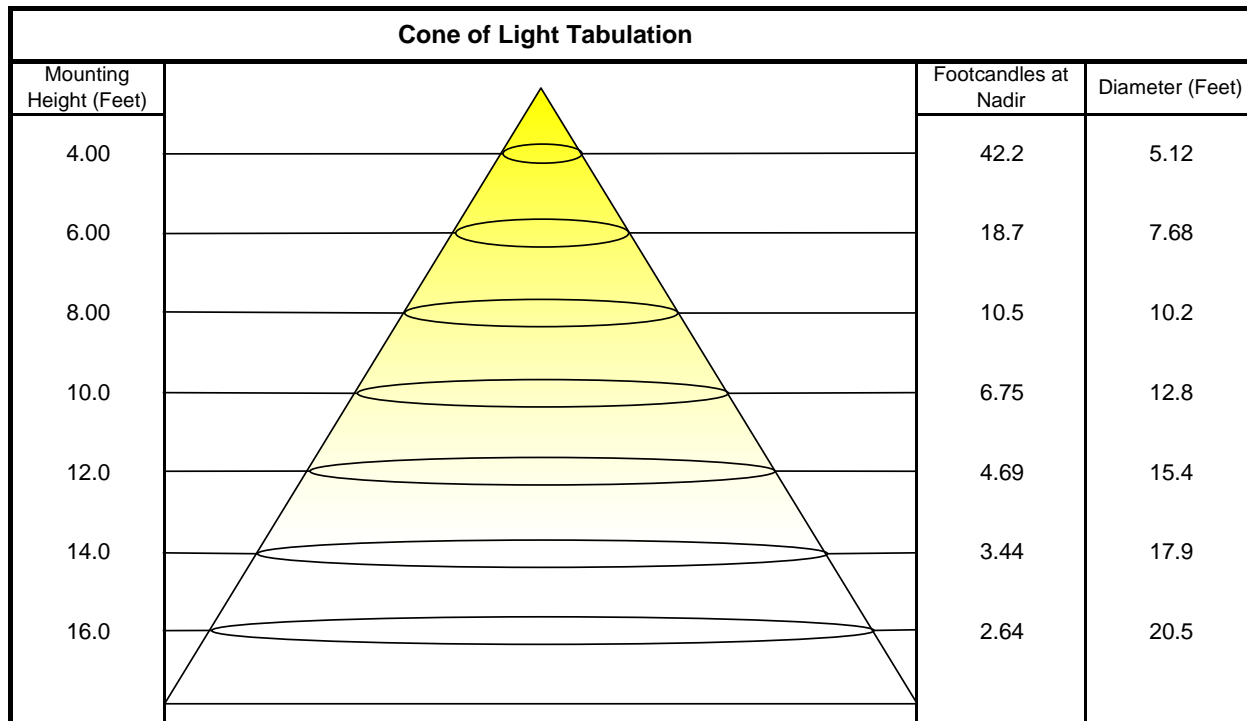
	0	45	90
0	12490	12490	12490
45	9797	8353	8173
55	8746	7611	7827
65	7554	6898	7399
75	5897	6148	6773
85	3003	5484	6076



### 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	3313	3313	3313	3313	3174	3174	3174	3174	2916	2916	2916	2680	2680	2680	2463	2463	2463	2361
1	2952	2787	2639	2506	2816	2669	2536	2415	2447	2340	2242	2243	2159	2080	2056	1989	1927	1828
2	2658	2393	2173	1988	2530	2292	2093	1924	2102	1939	1799	1927	1795	1679	1765	1660	1565	1471
3	2409	2081	1827	1625	2289	1994	1763	1576	1831	1639	1481	1681	1522	1389	1541	1411	1300	1212
4	2196	1831	1563	1359	2087	1756	1511	1321	1616	1409	1246	1486	1313	1173	1364	1221	1102	1019
5	2013	1627	1357	1158	1913	1563	1313	1127	1441	1229	1066	1328	1148	1007	1222	1071	949	872
6	1854	1458	1192	1002	1763	1402	1156	976	1297	1084	926	1198	1016	877	1105	950	829	757
7	1716	1317	1059	877	1633	1268	1027	856	1175	966	814	1089	908	773	1007	851	732	665
8	1594	1198	948	777	1519	1155	921	759	1073	869	723	996	818	688	924	769	653	590
9	1487	1096	856	694	1418	1058	833	679	985	787	648	917	743	617	853	700	587	529
10	1392	1008	778	625	1329	974	758	612	910	718	585	849	679	558	791	641	532	478

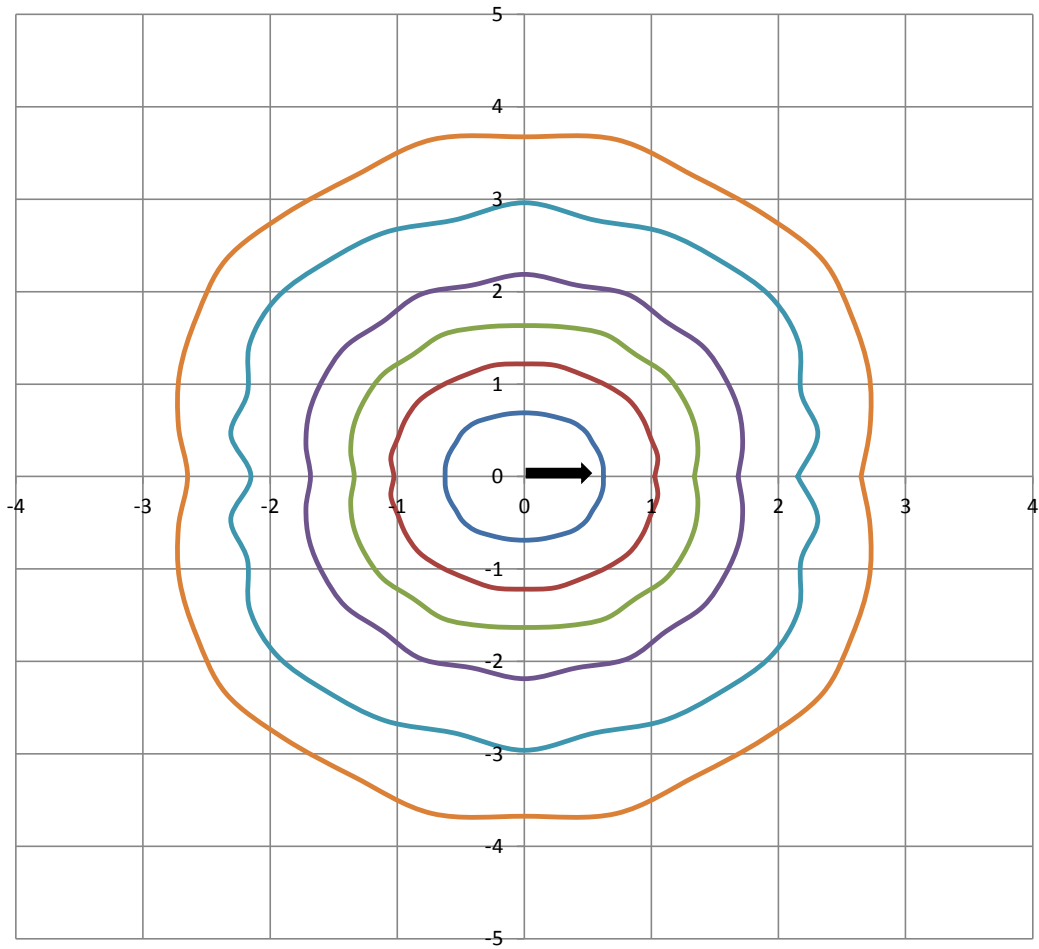
Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	674.9 Candela
Central Cone Intensity:	679 Candela
Beam Flux:	1793.7 Lumens
Beam Angle (0-180):	99.1 Degrees
Beam Angle (90-270):	152.2 Degrees
Field Angle (0-180):	155.5 Degrees
Field Angle (90-270):	303.6 Degrees





### ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

