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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 C78.377-2017, IES TM-30-2015

Prepared For  
**LDPI Inc**  
4404 Anderson Dr  
Eau Claire, WI 54703  
United State

Catalog Number  
**240-LEDS5-2L-UNV1-TS**  
Order Number  
12520987  
Test Number  
12520987.10

Test Date

2018-10-22 - 2018-10-24

Prepared By

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Approved By

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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 aluminum housing, clear glass lens enclosure  
**Lamp:** Two T8LDR4F15/850C Lamps  
**Mounting:** Pendant  
**Ballast/Driver:** One Universal B232IUNVHP-N

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 49.50 in.  
Luminous Width: 9.500 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 3691 Lumens  
Efficacy: 104.0 lm/w  
CCT: 5110 K  
CRI (Ra): 82.9

**Distribution**

Total Luminaire Output: 3559 Lumens  
Luminaire Efficacy: 100.1 lm/w  
Maximum Candela: 1180 Candela

**Electrical Data at 120 VAC**

Test Temperature: 24.7 °C  
Voltage: 120.0 VAC  
Current: 0.2969 A  
Power: 35.50 W  
Power Factor: 0.997  
Frequency: 60 Hz  
Current THD: 3.96 %



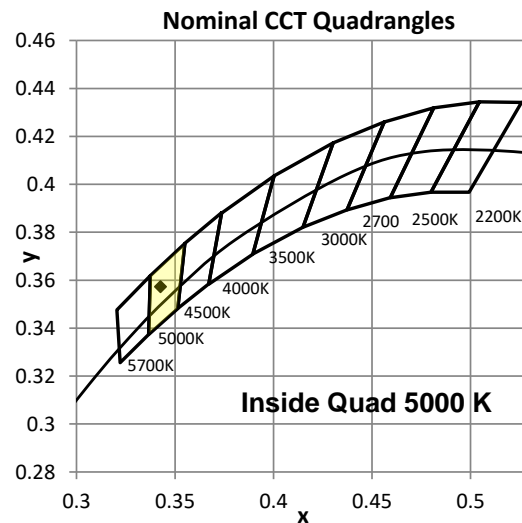
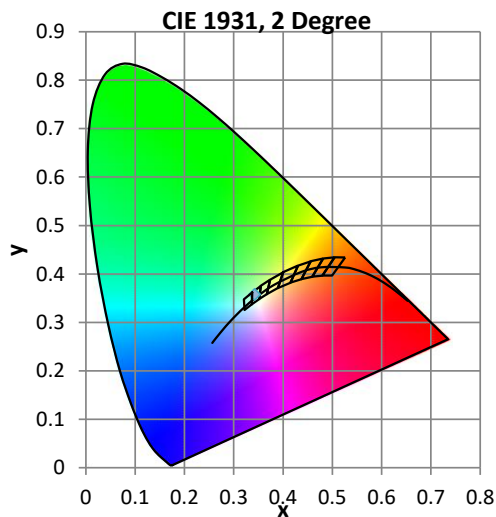
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.2969 A	35.50 W	0.997	60 Hz	3.96 %

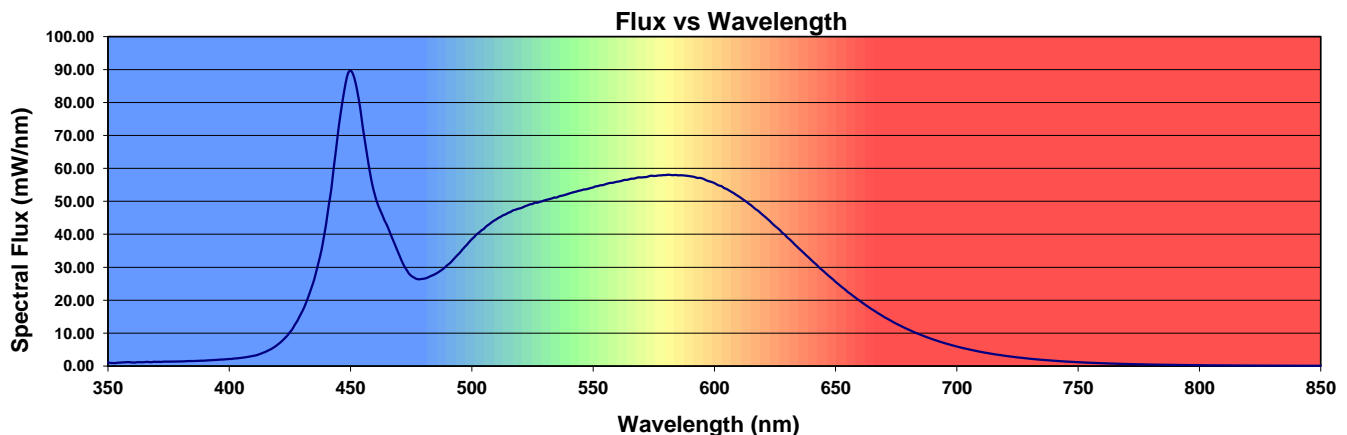
### Summary of Results

<b>Total Output:</b>	3691 Lumens	<b>Chromaticity (x):</b>	0.3426
<b>Efficacy:</b>	104.0 lm/w	<b>Chromaticity (y):</b>	0.3574
<b>CCT:</b>	5110 K	<b>Chromaticity (u'):</b>	0.2075
<b>CRI (Ra):</b>	82.9	<b>Chromaticity (v'):</b>	0.4871
<b>CRI (R9):</b>	2.6	<b>TM-30 Rf:</b>	82.6
<b>Peak Wavelength:</b>	450 nm	<b>TM-30 Rg:</b>	94.8
<b>Dominant Wavelength:</b>	567 nm	<b>Duv:</b>	0.0033
<b>S/P Ratio:</b>	1.99		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82.9	80.6	88.2	93.7	82.6	81.8	84.0	86.6	65.7	2.6	72.3	82.0	65.2	82.5	96.8	74.1





## Distribution - Goniophotometer

### Distribution Test Conditions

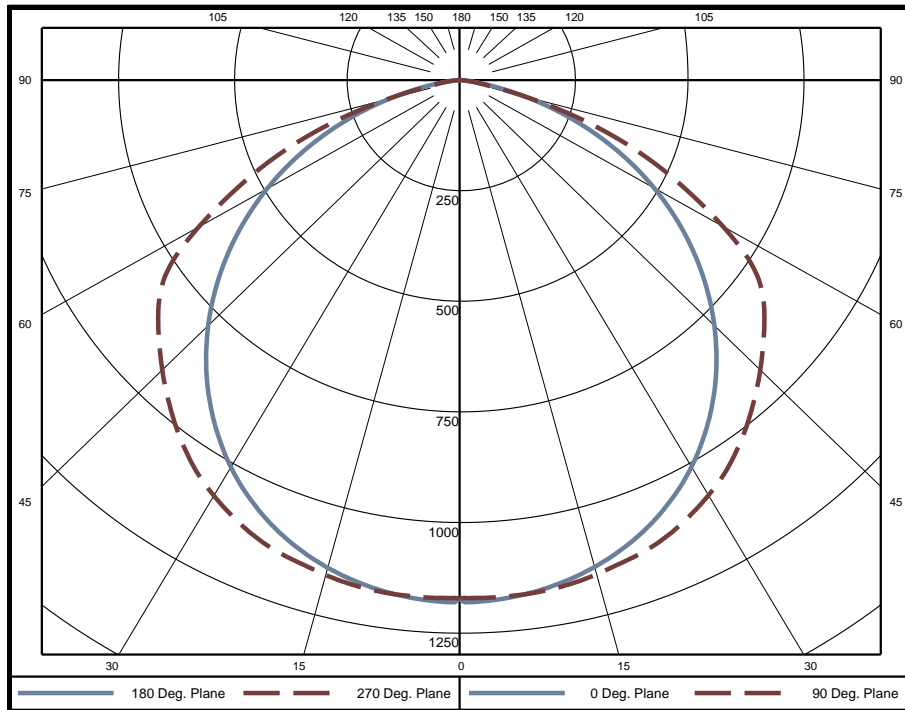
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.2966 A	35.54 W	0.999	60 Hz	3.87 %

### Summary of Results

**Spacing Criteria**  
 0-180: 1.28  
 90-270: 1.38

**Total Lumen Output:** 3559 Lumens  
**Luminaire Efficacy:** 100.1 lm/w  
**Maximum Candela:** 1180 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	28.0	0.8%	60-65	264.7	7.4%	120-125	0	0.0%
5-10	83.4	2.3%	65-70	208.5	5.9%	125-130	0	0.0%
10-15	136.7	3.8%	70-75	139.3	3.9%	130-135	0	0.0%
15-20	186.7	5.2%	75-80	68.8	1.9%	135-140	0	0.0%
20-25	231.9	6.5%	80-85	21.0	0.6%	140-145	0	0.0%
25-30	270.4	7.6%	85-90	3.4	0.1%	145-150	0	0.0%
30-35	300.6	8.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	321.3	9.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	332.2	9.3%	100-105	0	0.0%	160-165	0	0.0%
45-50	333.0	9.4%	105-110	0	0.0%	165-170	0	0.0%
50-55	324.6	9.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	304.3	8.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1559	43.8%
0-60	2853	80.2%
0-90	3559	100.0%
90-180	0	0.0%



**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	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171	1171
5	1175	1166	1165	1172	1172	1172	1165	1166	1175	1166	1165	1172	1172	1172	1165	1166
10	1161	1154	1157	1167	1167	1167	1157	1154	1161	1154	1157	1167	1167	1167	1157	1154
15	1139	1134	1141	1154	1156	1154	1141	1134	1139	1134	1141	1154	1156	1154	1141	1134
20	1107	1105	1119	1138	1142	1138	1119	1105	1107	1105	1119	1138	1142	1138	1119	1105
25	1063	1067	1086	1112	1119	1112	1086	1067	1063	1067	1086	1112	1119	1112	1086	1067
30	1010	1017	1045	1077	1086	1077	1045	1017	1010	1017	1045	1077	1086	1077	1045	1017
35	944	957	993	1032	1043	1032	993	957	944	957	993	1032	1043	1032	993	957
40	869	888	935	976	989	976	935	888	869	888	935	976	989	976	935	888
45	785	811	867	912	930	912	867	811	785	811	867	912	930	912	867	811
50	693	728	790	846	871	846	790	728	693	728	790	846	871	846	790	728
55	595	637	708	780	803	780	708	637	595	637	708	780	803	780	708	637
60	491	541	625	678	670	678	625	541	491	541	625	678	670	678	625	541
65	381	435	531	517	506	517	531	435	381	435	531	517	506	517	531	435
70	267	326	379	352	338	352	379	326	267	326	379	352	338	352	379	326
75	156	222	217	181	163	181	217	222	156	222	217	181	163	181	217	222
80	63	105	75	50	48	50	75	105	63	105	75	50	48	50	75	105
85	12	18	15	15	15	15	15	18	12	18	15	15	15	15	15	18
90	1	1	2	2	2	2	2	1	1	1	2	2	2	2	2	1
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)

	0	45	90
0	3861	3861	3861
45	3659	4042	4336
55	3419	4067	4615
65	2968	4141	3948
75	1982	2768	2079
85	438	564	549

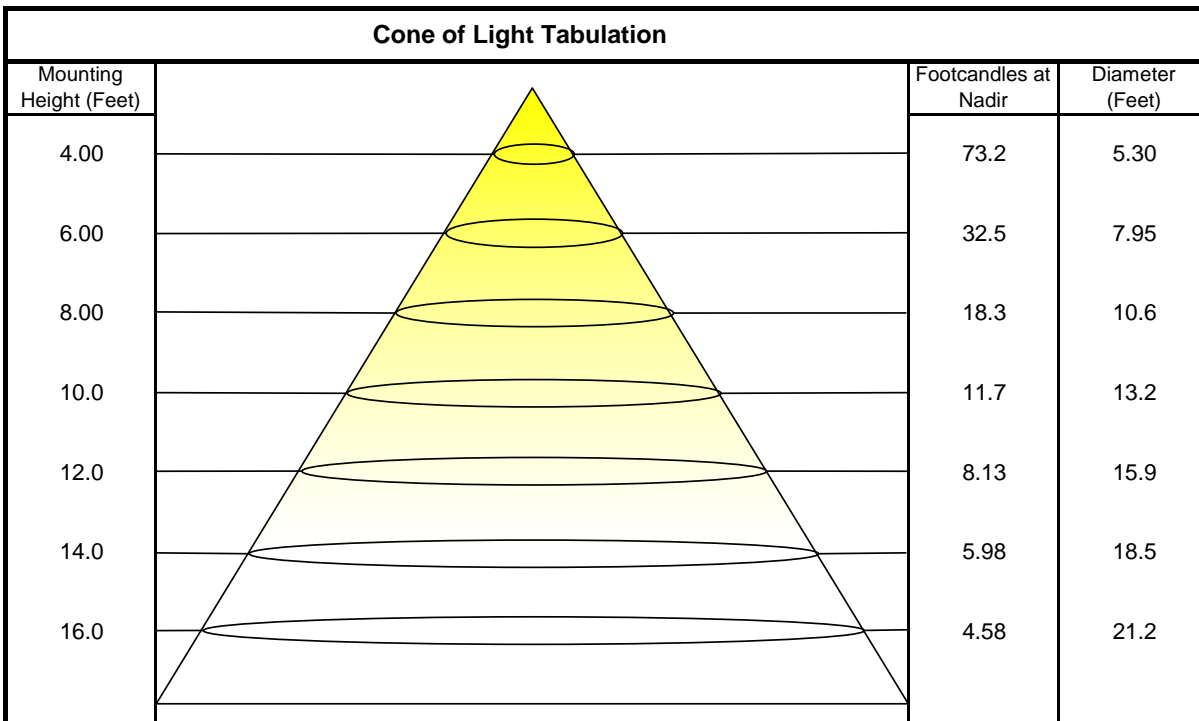


### Coefficients of Utilization - Zonal Cavity Method

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 percent of total lumen output delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	70	62	55	80	69	61	55	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	58	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	42	34	29	55	42	34	29	41	33	28	40	33	28	39	33	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

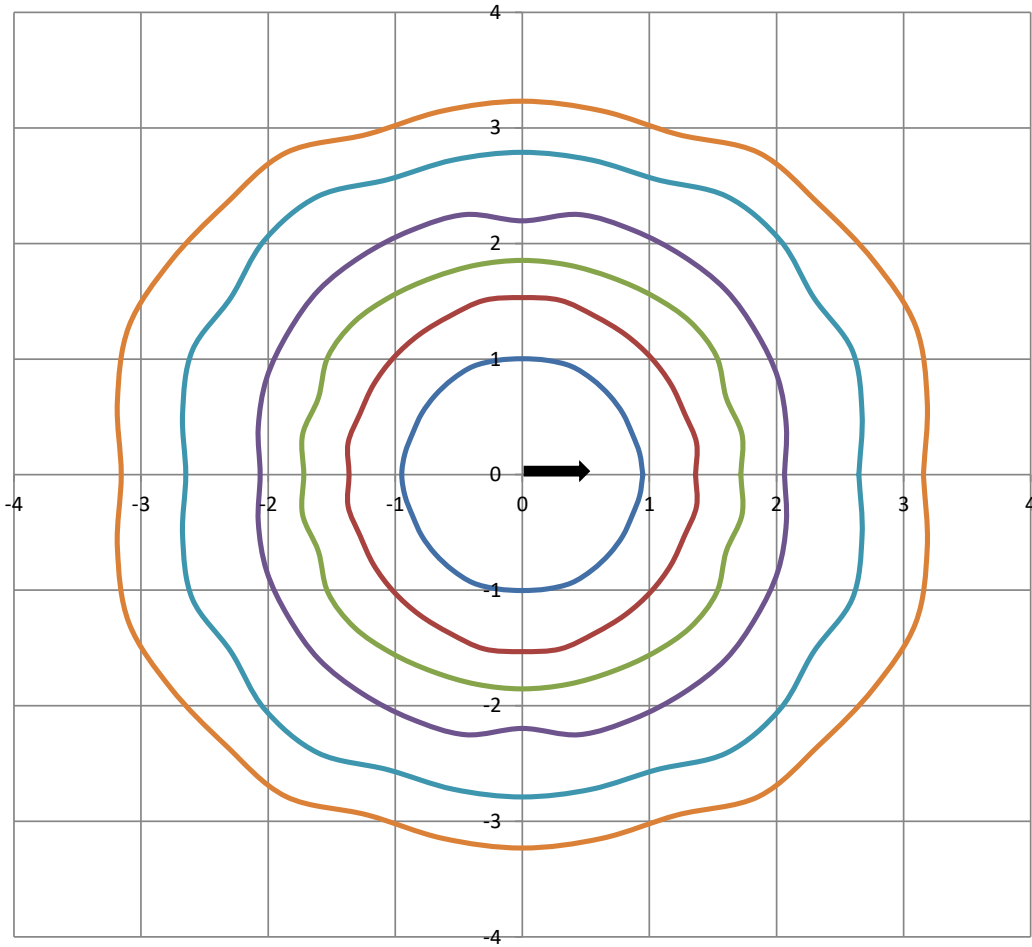
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1171 Candela
Central Cone Intensity:	1171 Candela
Beam Flux:	2890.1 Lumens
Beam Angle (0-180):	110.9 Degrees
Beam Angle (90-270):	125.1 Degrees
Field Angle (0-180):	153.8 Degrees
Field Angle (90-270):	153.0 Degrees





# ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

