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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**  
**390440-LEDH5**  
Order Number  
12520987  
Test Number  
12520987.03

Test Date

2018-10-22

Prepared By

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Approved By

Kevin Rodriguez, Project Handler

The results contained in this report pertain only to the tested sample.  
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## Table of Contents

<b>Summary of Results</b>	Page 3
<b>Integrating Sphere Results</b>	Page 4
<b>Distribution Results</b>	
Conditions / Summary of Results / Polar Plot / Zonal Lumens	Page 5
Candela Tabulation / Average Luminance	Page 6
Coefficients of Utilization / Cone of Light	Page 7
ISOFootcandle Plot	Page 8

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, clear glass lens enclosure  
**Lamp:** Four T8LDR4F15/850C Lamps  
**Mounting:** Recessed  
**Ballast/Driver:** One Universal B432IUNHEH-E

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 48.00 in.  
Luminous Width: 12.50 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 8833 Lumens  
Efficacy: 89.0 lm/w  
CCT: 5213 K  
CRI (Ra): 83.8

**Distribution**

Total Luminaire Output: 8551 Lumens  
Luminaire Efficacy: 85.9 lm/w  
Maximum Candela: 2984 Candela

**Electrical Data at 119 VAC**

Test Temperature: 25.3 °C  
Voltage: 119.9 VAC  
Current: 0.8306 A  
Power: 99.29 W  
Power Factor: 0.997  
Frequency: 60 Hz  
Current THD: 6.19 %



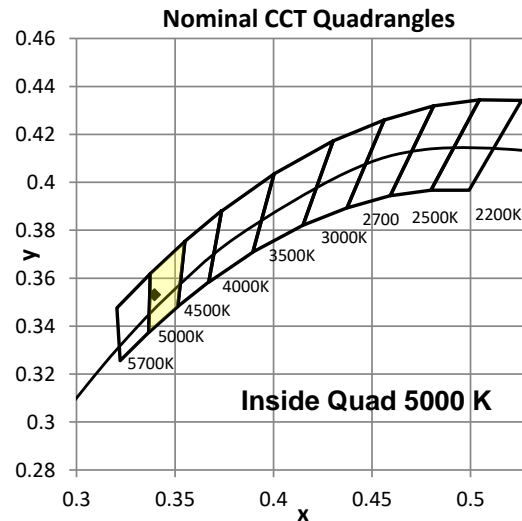
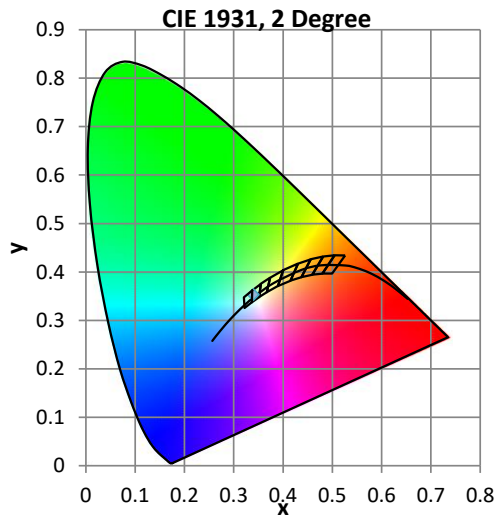
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	119.9 VAC	0.8306 A	99.29 W	0.997	60 Hz	6.19 %

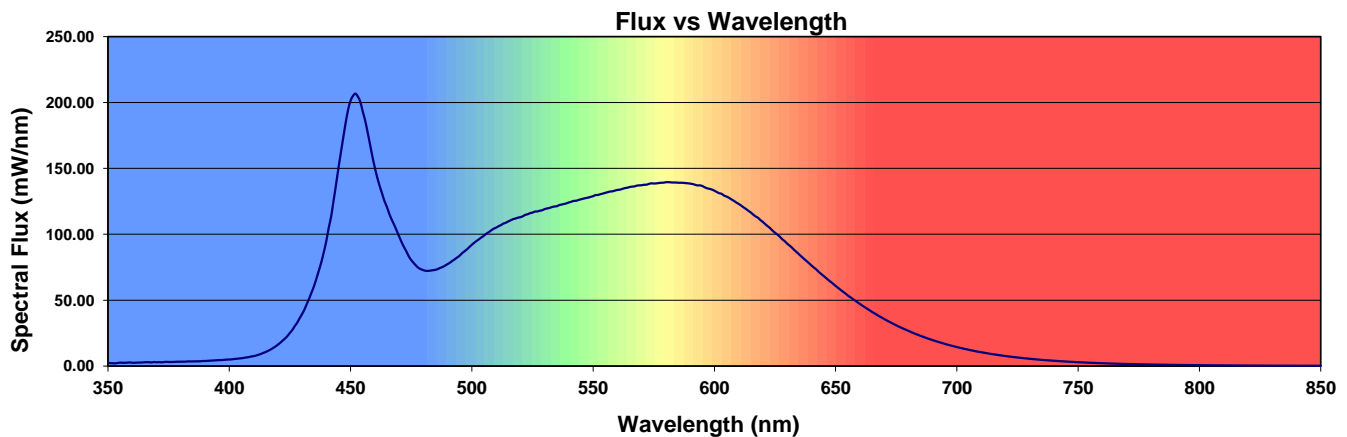
### Summary of Results

<b>Total Output:</b>	8833 Lumens	<b>Chromaticity (x):</b>	0.3396
<b>Efficacy:</b>	89.0 lm/w	<b>Chromaticity (y):</b>	0.3532
<b>CCT:</b>	5213 K	<b>Chromaticity (u'):</b>	0.2071
<b>CRI (Ra):</b>	83.8	<b>Chromaticity (v'):</b>	0.4847
<b>CRI (R9):</b>	5.6	<b>TM-30 Rf:</b>	82.8
<b>Peak Wavelength:</b>	452 nm	<b>TM-30 Rg:</b>	94.1
<b>Dominant Wavelength:</b>	566 nm	<b>Duv:</b>	0.0026
<b>S/P Ratio:</b>	2.04		



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83.8	81.7	90.1	94.7	82.4	82.7	85.9	86.6	66.3	5.6	76.1	81.6	66.4	84.1	97.4	75.6





## Distribution - Goniophotometer

### Distribution Test Conditions

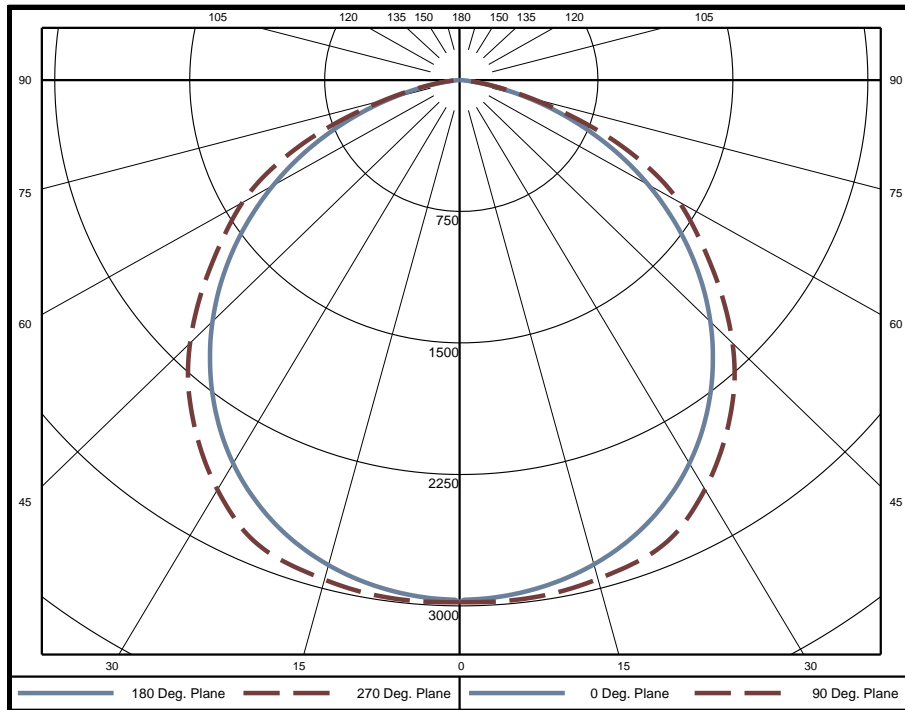
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.0 VAC	0.8325 A	99.59 W	0.997	60 Hz	6.13 %

### Summary of Results

**Spacing Criteria**  
 0-180: 1.26  
 90-270: 1.33

**Total Lumen Output:** 8551 Lumens  
**Luminaire Efficacy:** 85.9 lm/w  
**Maximum Candela:** 2984 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	71.2	0.8%	60-65	582.8	6.8%	120-125	0	0.0%
5-10	212.0	2.5%	65-70	462.5	5.4%	125-130	0	0.0%
10-15	347.9	4.1%	70-75	314.2	3.7%	130-135	0	0.0%
15-20	475.1	5.6%	75-80	168.4	2.0%	135-140	0	0.0%
20-25	589.7	6.9%	80-85	62.0	0.7%	140-145	0	0.0%
25-30	684.3	8.0%	85-90	11.0	0.1%	145-150	0	0.0%
30-35	753.0	8.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	794.3	9.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	808.3	9.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	792.6	9.3%	105-110	0	0.0%	165-170	0	0.0%
50-55	746.6	8.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	674.9	7.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	3928	45.9%
0-60	6950	81.3%
0-90	8551	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	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979	2979
5	2952	2969	2976	2983	2982	2983	2976	2969	2952	2969	2976	2983	2982	2983	2976	2969
10	2917	2939	2955	2971	2973	2971	2955	2939	2917	2939	2955	2971	2973	2971	2955	2939
15	2859	2888	2916	2939	2945	2939	2916	2888	2859	2888	2916	2939	2945	2939	2916	2888
20	2777	2814	2857	2898	2911	2898	2857	2814	2777	2814	2857	2898	2911	2898	2857	2814
25	2666	2713	2775	2826	2836	2826	2775	2713	2666	2713	2775	2826	2836	2826	2775	2713
30	2527	2584	2664	2692	2694	2692	2664	2584	2527	2584	2664	2692	2694	2692	2664	2584
35	2358	2428	2506	2521	2526	2521	2506	2428	2358	2428	2506	2521	2526	2521	2506	2428
40	2165	2252	2311	2331	2338	2331	2311	2252	2165	2252	2311	2331	2338	2331	2311	2252
45	1951	2057	2101	2120	2116	2120	2101	2057	1951	2057	2101	2120	2116	2120	2101	2057
50	1717	1837	1875	1872	1867	1872	1875	1837	1717	1837	1875	1872	1867	1872	1875	1837
55	1466	1586	1618	1612	1619	1612	1618	1586	1466	1586	1618	1612	1619	1612	1618	1586
60	1202	1322	1342	1370	1390	1370	1342	1322	1202	1322	1342	1370	1390	1370	1342	1322
65	930	1048	1070	1113	1104	1113	1070	1048	930	1048	1070	1113	1104	1113	1070	1048
70	650	755	805	779	756	779	805	755	650	755	805	779	756	779	805	755
75	385	468	488	433	417	433	488	468	385	468	488	433	417	433	488	468
80	167	232	201	186	182	186	201	232	167	232	201	186	182	186	201	232
85	37	54	50	47	47	47	50	54	37	54	50	47	47	47	50	54
90	2	3	4	5	6	5	4	3	2	3	4	5	6	5	4	3
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	7695	7695	7695
45	7129	7677	7731
55	6604	7287	7290
65	5682	6540	6746
75	3845	4869	4159
85	1104	1493	1407

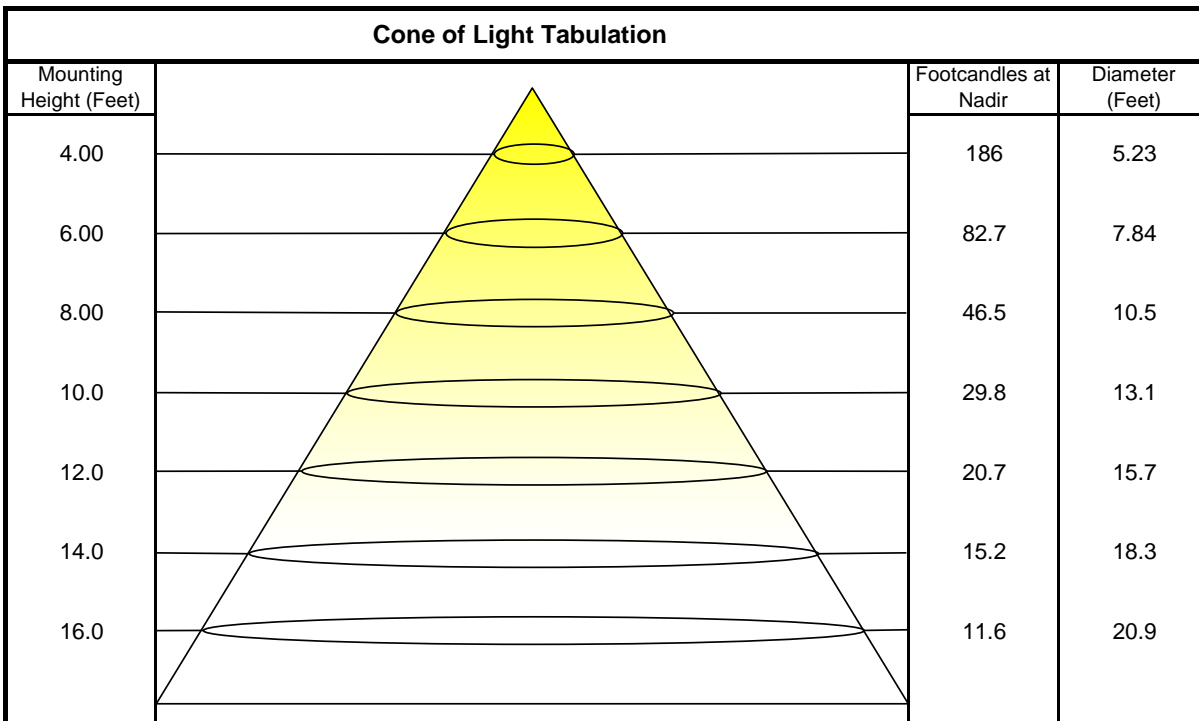


### Coefficients of Utilization - Zonal Cavity Method

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	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	80	72	66	88	79	71	66	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25

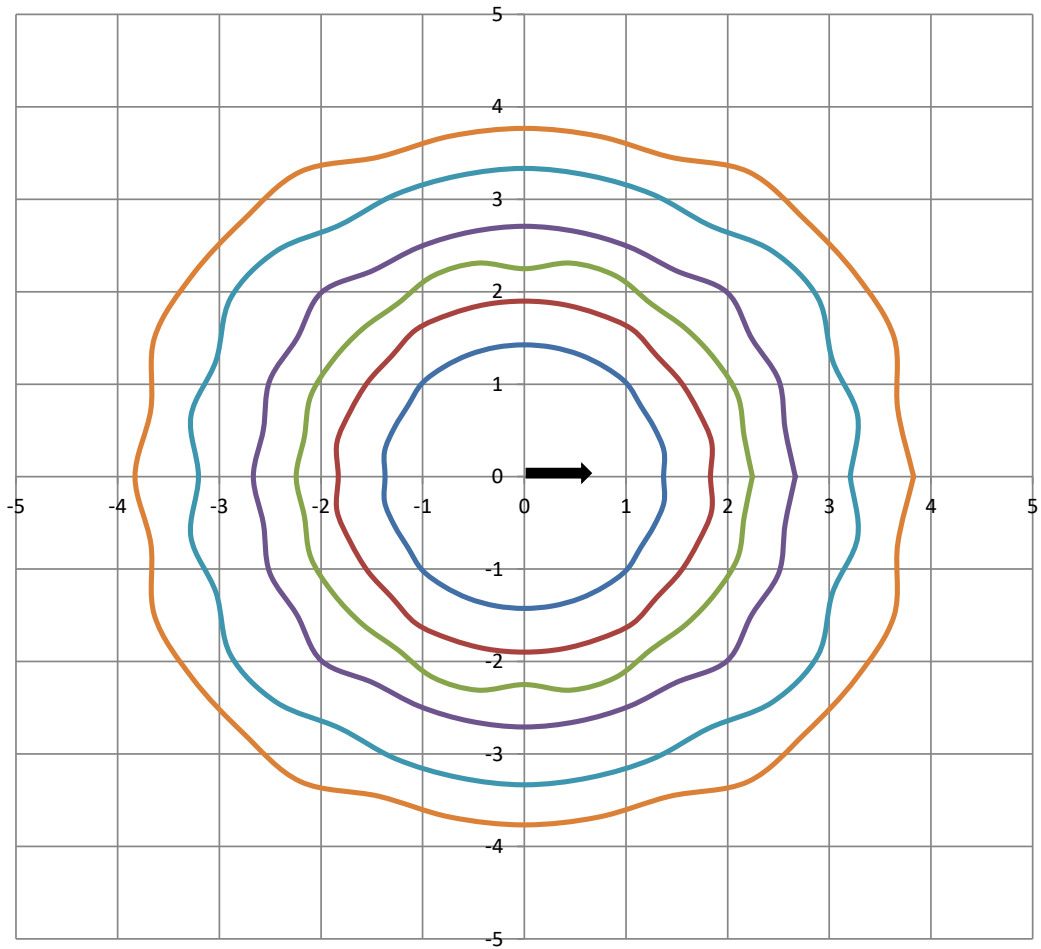
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	2979 Candela
Central Cone Intensity:	2977 Candela
Beam Flux:	6552.1 Lumens
Beam Angle (0-180):	109.1 Degrees
Beam Angle (90-270):	115.7 Degrees
Field Angle (0-180):	153.6 Degrees
Field Angle (90-270):	154.5 Degrees





### ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

