



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



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-LEDH5-6L-UNV1-TS

Order Number

12520987

Test Number

12520987.13

Test Date

2018-10-19 - 2018-10-24

Prepared By

Javier Caban, Technician

Approved By

Kevin Rodriguez, 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.
This report must not be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the Federal Government.



Table of Contents

Summary of Results	Page 3
Integrating Sphere Results	Page 4
Distribution Results	
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 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: White formed steel housing, clear glass lens enclosure
Lamp: Six T8 Lamps
Mounting: Pendant
Ballast/Driver: One Universal B432IUNVHEH-E and B232IUNVHEH-A Ballast

Luminaire



Luminaire Characteristics

Luminous Length: 49.50 in.
Luminous Width: 18.00 in.

Summary of Results

Integrating Sphere

Luminous Flux: 14470 Lumens
Efficacy: 97.3 lm/w
CCT: 5197 K
CRI (Ra): 83.3

Distribution

Total Luminaire Output: 14250 Lumens
Luminaire Efficacy: 95.9 lm/w
Maximum Candela: 4692 Candela

Electrical Data at 120 VAC

Test Temperature: 25.8 °C
Voltage: 120.0 VAC
Current: 1.242 A
Power: 148.6 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 5.95 %



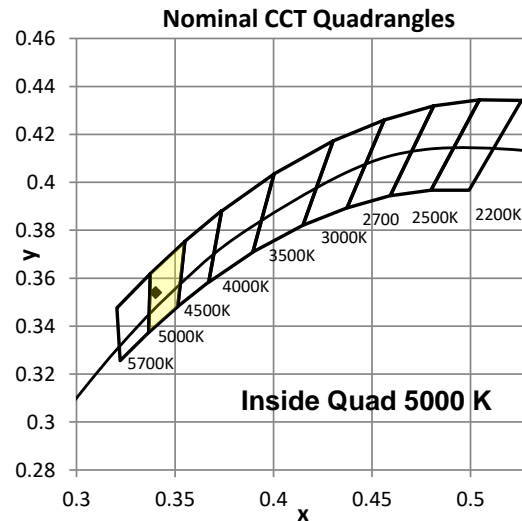
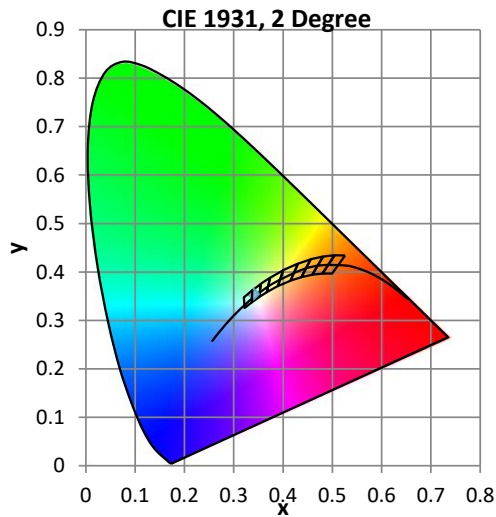
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.8 °C	120.0 VAC	1.242 A	148.6 W	0.997	60 Hz	5.95 %

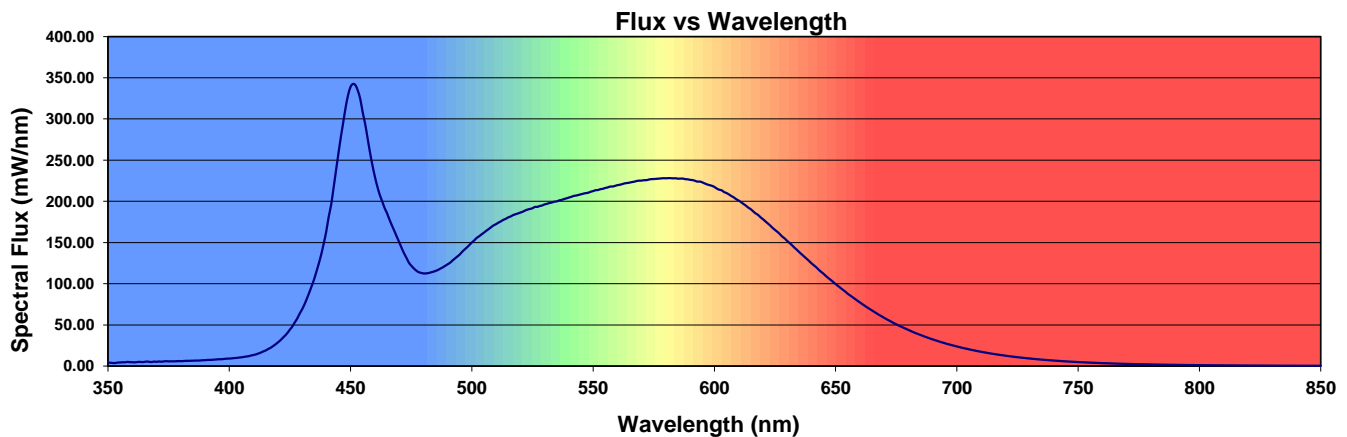
Summary of Results

Total Output:	14470 Lumens	Chromaticity (x):	0.3401
Efficacy:	97.3 lm/w	Chromaticity (y):	0.3540
CCT:	5197 K	Chromaticity (u'):	0.2071
CRI (Ra):	83.3	Chromaticity (v'):	0.4851
CRI (R9):	4.2	TM-30 Rf:	82.7
Peak Wavelength:	451 nm	TM-30 Rg:	94.4
Dominant Wavelength:	566 nm	Duv:	0.0028
S/P Ratio:	2.02		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83.3	81.1	89.1	94.2	82.4	82.2	84.9	86.6	66.1	4.2	74.1	81.6	65.9	83.3	97.1	74.9





Distribution - Goniophotometer

Distribution Test Conditions

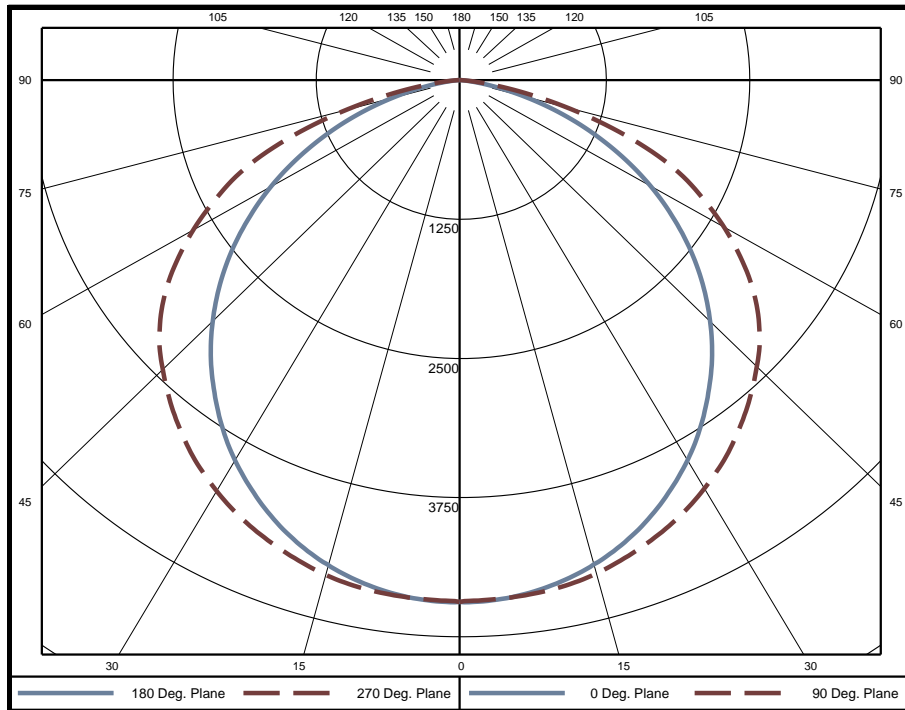
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.0 VAC	1.242 A	148.7 W	0.997	60 Hz	5.89 %

Summary of Results

Spacing Criteria
 0-180: 1.25
 90-270: 1.35

Total Lumen Output: 14250 Lumens
Luminaire Efficacy: 95.9 lm/w
Maximum Candela: 4692 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	112	0.8%	60-65	1047	7.3%	120-125	0	0.0%
5-10	333	2.3%	65-70	861	6.0%	125-130	0	0.0%
10-15	545	3.8%	70-75	623	4.4%	130-135	0	0.0%
15-20	741	5.2%	75-80	354	2.5%	135-140	0	0.0%
20-25	915	6.4%	80-85	129	0.9%	140-145	0	0.0%
25-30	1062	7.5%	85-90	20	0.1%	145-150	0	0.0%
30-35	1178	8.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	1260	8.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	1304	9.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	1310	9.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	1272	8.9%	110-115	0	0.0%	170-175	0	0.0%
55-60	1185	8.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	6146	43.1%
0-60	11217	78.7%
0-90	14251	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	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687	4687
5	4670	4675	4675	4674	4669	4674	4675	4675	4670	4675	4675	4674	4669	4674	4675	4675
10	4606	4618	4631	4643	4644	4643	4631	4618	4606	4618	4631	4643	4644	4643	4631	4618
15	4500	4522	4553	4580	4589	4580	4553	4522	4500	4522	4553	4580	4589	4580	4553	4522
20	4356	4389	4440	4485	4498	4485	4440	4389	4356	4389	4440	4485	4498	4485	4440	4389
25	4168	4213	4290	4362	4387	4362	4290	4213	4168	4213	4290	4362	4387	4362	4290	4213
30	3945	4001	4108	4211	4247	4211	4108	4001	3945	4001	4108	4211	4247	4211	4108	4001
35	3684	3758	3904	4036	4081	4036	3904	3758	3684	3758	3904	4036	4081	4036	3904	3758
40	3391	3487	3676	3823	3879	3823	3676	3487	3391	3487	3676	3823	3879	3823	3676	3487
45	3068	3186	3412	3587	3656	3587	3412	3186	3068	3186	3412	3587	3656	3587	3412	3186
50	2715	2857	3118	3335	3403	3335	3118	2857	2715	2857	3118	3335	3403	3335	3118	2857
55	2326	2506	2801	3012	3073	3012	2801	2506	2326	2506	2801	3012	3073	3012	2801	2506
60	1915	2117	2442	2618	2668	2618	2442	2117	1915	2117	2442	2618	2668	2618	2442	2117
65	1476	1699	2023	2168	2225	2168	2023	1699	1476	1699	2023	2168	2225	2168	2023	1699
70	1033	1270	1547	1662	1666	1662	1547	1270	1033	1270	1547	1662	1666	1662	1547	1270
75	602	845	1026	1018	1000	1018	1026	845	602	845	1026	1018	1000	1018	1026	845
80	252	429	467	445	431	445	467	429	252	429	467	445	431	445	467	429
85	51	111	104	98	96	98	104	111	51	111	104	98	96	98	104	111
90	5	7	9	9	9	9	9	7	5	7	9	9	9	9	9	7
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/m²)
Horizontal Angle (Degrees)

	0	45	90
0	8153	8153	8153
45	7547	8395	8994
55	7053	8495	9319
65	6074	8327	9160
75	4048	6896	6722
85	1020	2084	1912

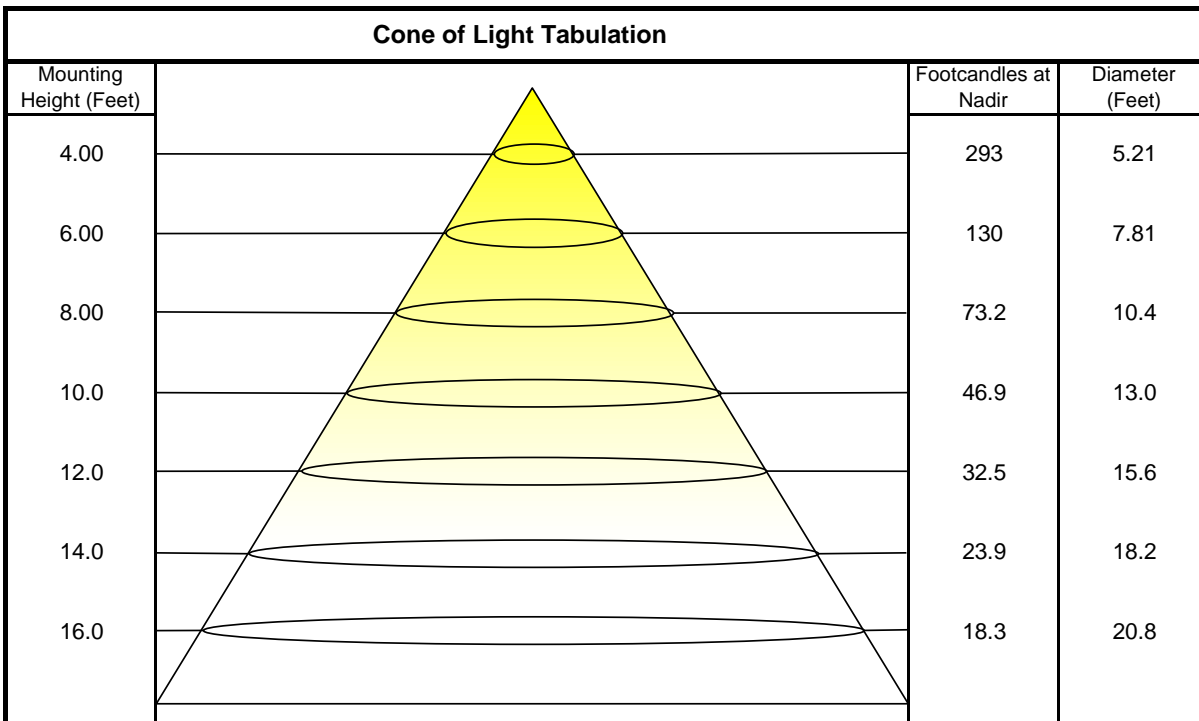


Coefficients of Utilization - Zonal Cavity Method

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	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	69	56	47	40	67	55	46	40	53	45	40	51	45	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25	35	29	25	23

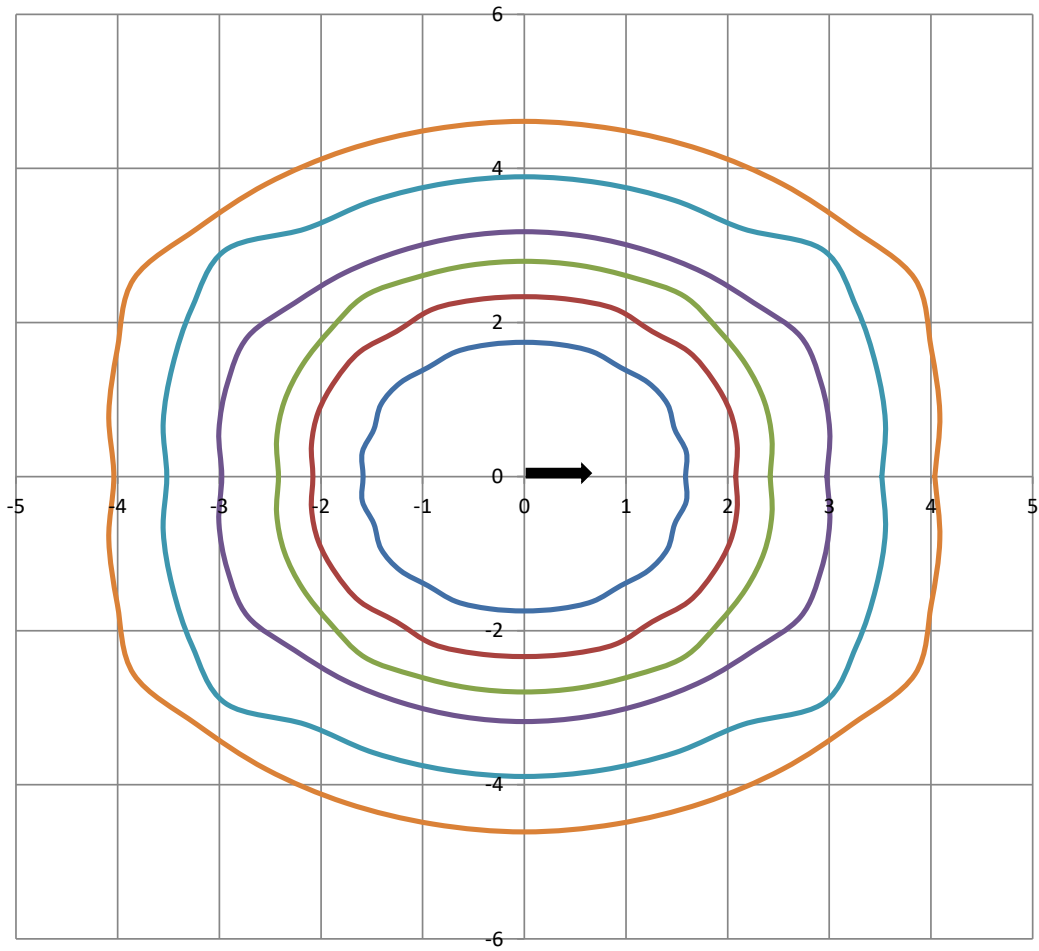
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4687 Candela
Central Cone Intensity:	4682 Candela
Beam Flux:	11301.8 Lumens
Beam Angle (0-180):	109.6 Degrees
Beam Angle (90-270):	127.3 Degrees
Field Angle (0-180):	153.5 Degrees
Field Angle (90-270):	159.2 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

