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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-LEDH5-4L-UNV1-TS

Order Number

12520987

Test Number

12520987.11

Test Date

2018-10-19

Prepared By

Josh Mitchell, Technician

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

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: 4 T8 Lamps
Mounting: Pendant
Ballast/Driver: One Universal B432IUNVHEH-E

Luminaire



Luminaire Characteristics

Luminous Length: 49.50 in.
Luminous Width: 13.50 in.

Summary of Results

Integrating Sphere

Luminous Flux: 9674 Lumens
Efficacy: 98.1 lm/w
CCT: 5203 K
CRI (Ra): 83.8

Distribution

Total Luminaire Output: 9460 Lumens
Luminaire Efficacy: 95.9 lm/w
Maximum Candela: 3118 Candela

Electrical Data at 120 VAC

Test Temperature: 24.6 °C
Voltage: 120.0 VAC
Current: 0.8243 A
Power: 98.62 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 5.95 %



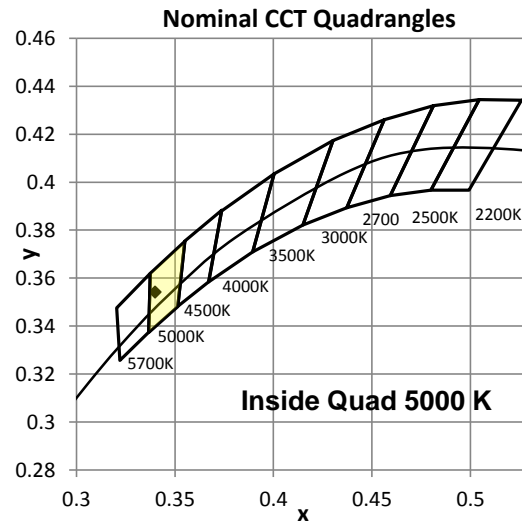
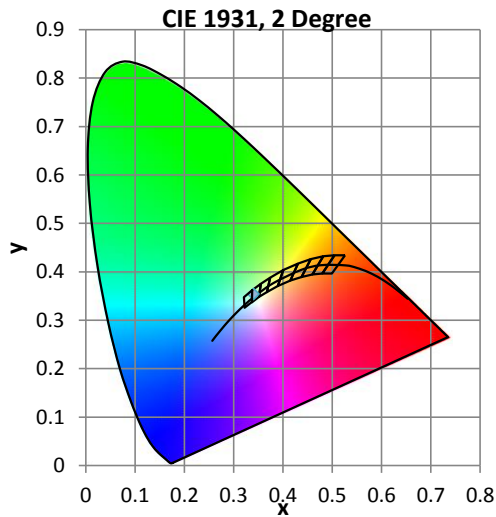
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.8243 A	98.62 W	0.997	60 Hz	5.95 %

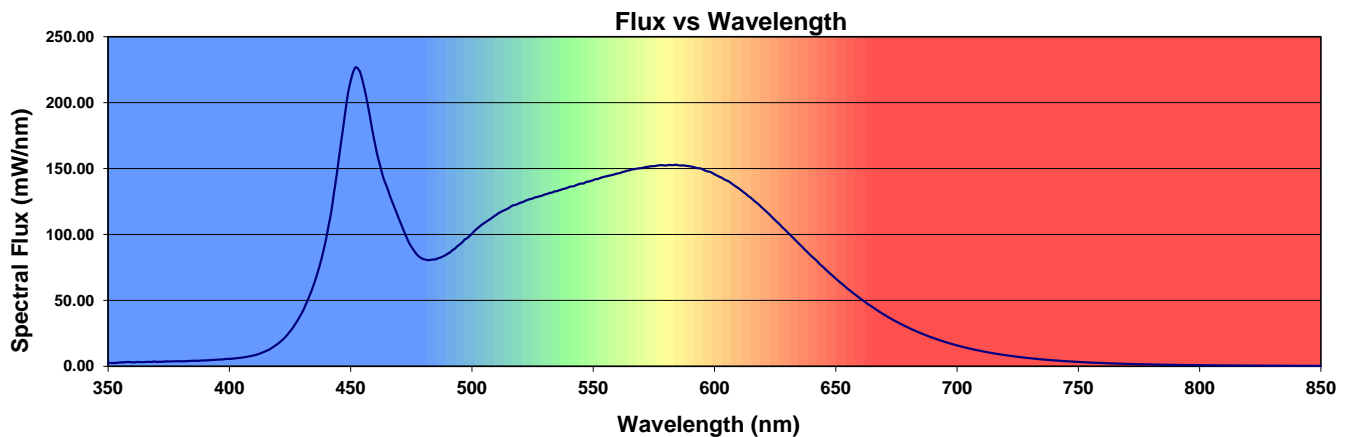
Summary of Results

Total Output:	9674 Lumens	Chromaticity (x):	0.3399
Efficacy:	98.1 lm/w	Chromaticity (y):	0.3542
CCT:	5203 K	Chromaticity (u'):	0.2070
CRI (Ra):	83.8	Chromaticity (v'):	0.4851
CRI (R9):	5.2	TM-30 Rf:	82.7
Peak Wavelength:	452 nm	TM-30 Rg:	93.7
Dominant Wavelength:	566 nm	Duv:	0.0029
S/P Ratio:	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	90.3	94.9	82.0	82.5	86.2	86.4	65.9	5.2	76.7	81.2	66.2	84.2	97.6	75.3





Distribution - Goniophotometer

Distribution Test Conditions

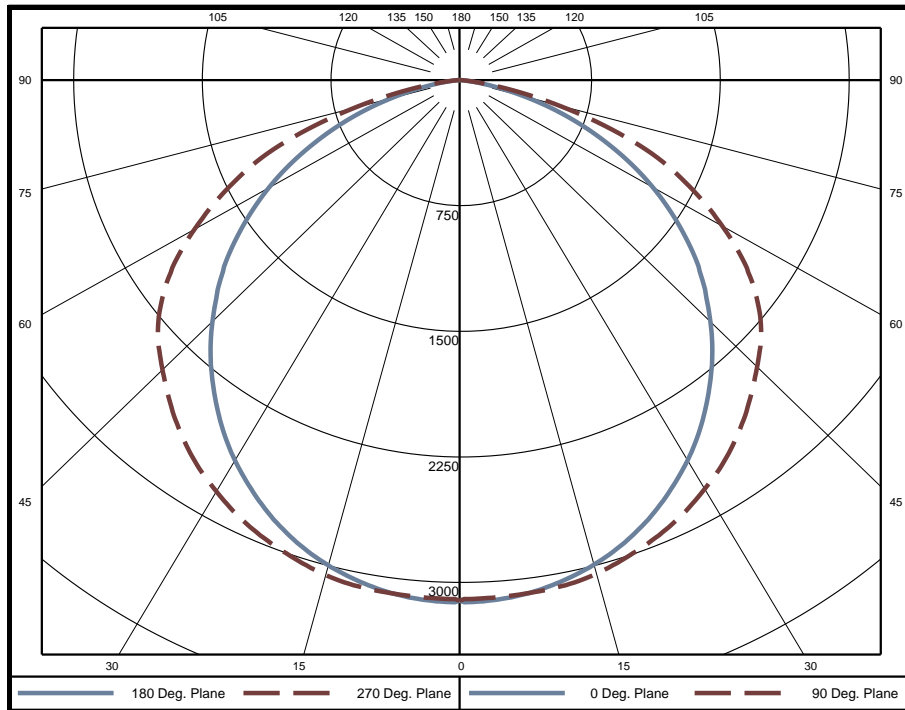
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.0 VAC	0.8247 A	98.68 W	0.997	60 Hz	5.91 %

Summary of Results

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

Total Lumen Output: 9460 Lumens
Luminaire Efficacy: 95.9 lm/w
Maximum Candela: 3118 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	74.2	0.8%	60-65	699.1	7.4%	120-125	0	0.0%
5-10	220.9	2.3%	65-70	568.8	6.0%	125-130	0	0.0%
10-15	361.8	3.8%	70-75	405.3	4.3%	130-135	0	0.0%
15-20	492.6	5.2%	75-80	223.5	2.4%	135-140	0	0.0%
20-25	608.9	6.4%	80-85	76.2	0.8%	140-145	0	0.0%
25-30	706.9	7.5%	85-90	11.6	0.1%	145-150	0	0.0%
30-35	784.4	8.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	839.0	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	868.7	9.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	872.9	9.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	850.7	9.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	794.4	8.4%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	4089	43.2%
0-60	7475	79.0%
0-90	9460	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	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108	3108
5	3105	3103	3101	3101	3093	3101	3101	3103	3105	3103	3101	3101	3093	3101	3101	3103
10	3063	3066	3073	3084	3082	3084	3073	3066	3063	3066	3073	3084	3082	3084	3073	3066
15	2994	3005	3025	3047	3052	3047	3025	3005	2994	3005	3025	3047	3052	3047	3025	3005
20	2898	2917	2955	2987	2993	2987	2955	2917	2898	2917	2955	2987	2993	2987	2955	2917
25	2772	2802	2858	2906	2921	2906	2858	2802	2772	2802	2858	2906	2921	2906	2858	2802
30	2624	2664	2737	2803	2826	2803	2737	2664	2624	2664	2737	2803	2826	2803	2737	2664
35	2449	2504	2601	2687	2717	2687	2601	2504	2449	2504	2601	2687	2717	2687	2601	2504
40	2256	2326	2449	2545	2583	2545	2449	2326	2256	2326	2449	2545	2583	2545	2449	2326
45	2042	2129	2273	2385	2433	2385	2273	2129	2042	2129	2273	2385	2433	2385	2273	2129
50	1814	1917	2076	2220	2276	2220	2076	1917	1814	1917	2076	2220	2276	2220	2076	1917
55	1561	1686	1870	2016	2054	2016	1870	1686	1561	1686	1870	2016	2054	2016	1870	1686
60	1288	1427	1644	1744	1763	1744	1644	1427	1288	1427	1644	1744	1763	1744	1644	1427
65	995	1146	1360	1421	1439	1421	1360	1146	995	1146	1360	1421	1439	1421	1360	1146
70	697	857	1018	1067	1064	1067	1018	857	697	857	1018	1067	1064	1067	1018	857
75	405	569	660	636	612	636	660	569	405	569	660	636	612	636	660	569
80	167	284	288	253	240	253	288	284	167	284	288	253	240	253	288	284
85	32	71	59	48	43	48	59	71	32	71	59	48	43	48	59	71
90	2	5	6	6	6	6	6	5	2	5	6	6	6	6	6	5
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	7210	7210	7210
45	6699	7455	7979
55	6314	7563	8308
65	5462	7464	7897
75	3629	5914	5487
85	839	1564	1144

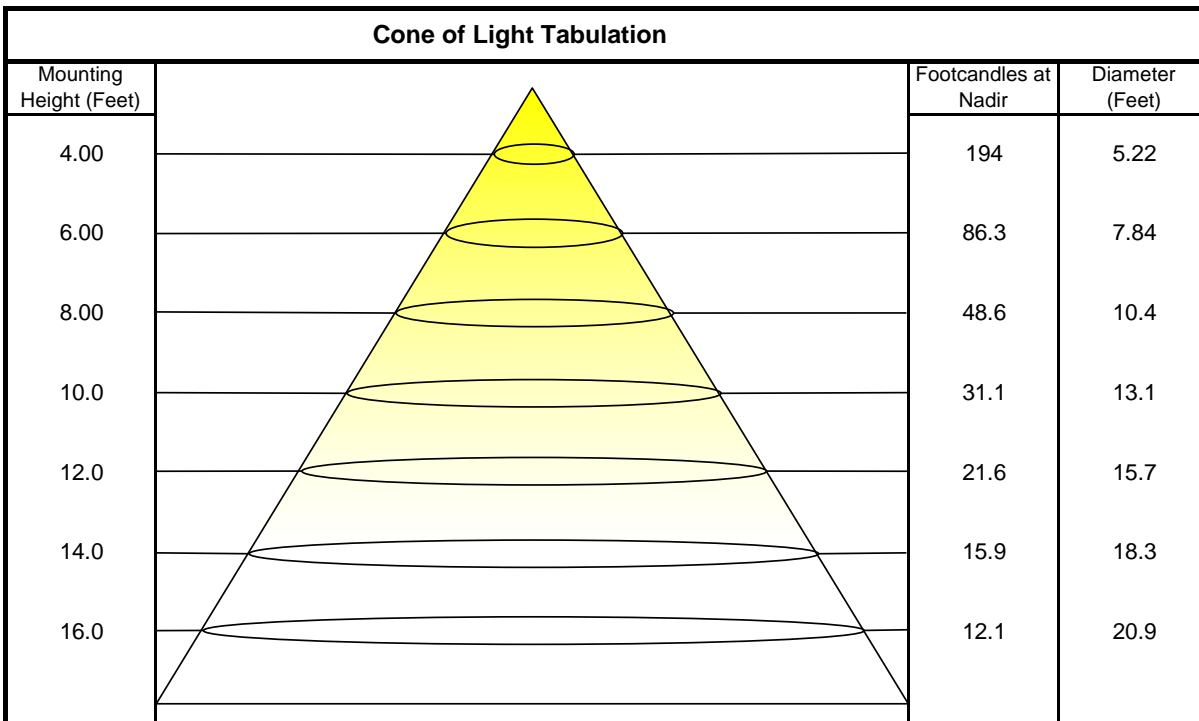


Coefficients of Utilization - Zonal Cavity Method

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	95	92	94	91	89	90	88	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	74	79	75	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	75	62	53	47	73	61	53	46	59	52	46	57	50	45	55	49	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	37	32	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	26	37	30	25	36	30	25	36	30	25	23

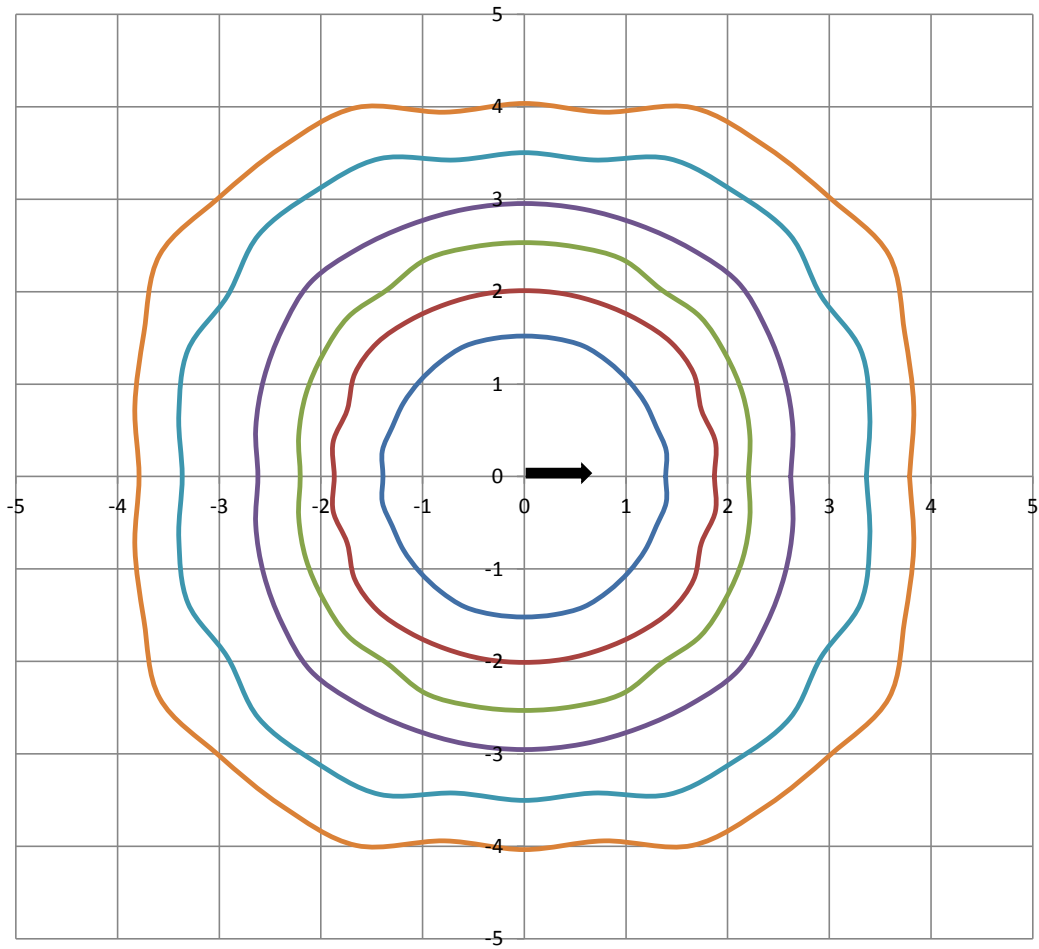
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	3108 Candela
Central Cone Intensity:	3106 Candela
Beam Flux:	7559.2 Lumens
Beam Angle (0-180):	110.3 Degrees
Beam Angle (90-270):	126.6 Degrees
Field Angle (0-180):	153.6 Degrees
Field Angle (90-270):	157.7 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

