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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-LEDH5-2L-UNV1-TS

Order Number

12520987

Test Number

12520987.09

Test Date

2018-10-23 - 2018-10-24

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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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 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: 4783 Lumens
Efficacy: 94.9 lm/w
CCT: 5155 K
CRI (Ra): 83.2

Distribution

Total Luminaire Output: 4632 Lumens
Luminaire Efficacy: 91.6 lm/w
Maximum Candela: 1538 Candela

Electrical Data at 120 VAC

Test Temperature: 24.6 °C
Voltage: 120.0 VAC
Current: 0.4211 A
Power: 50.42 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 4.51 %



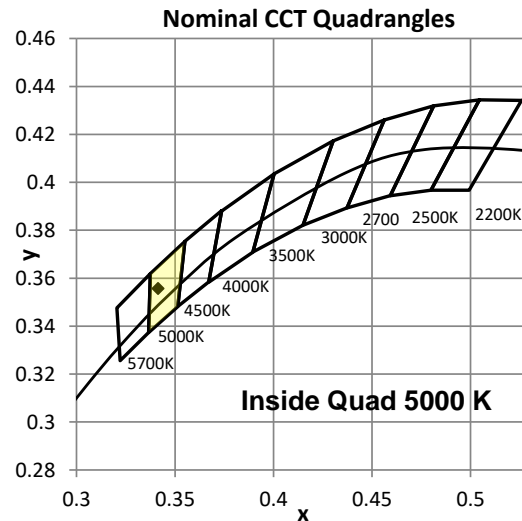
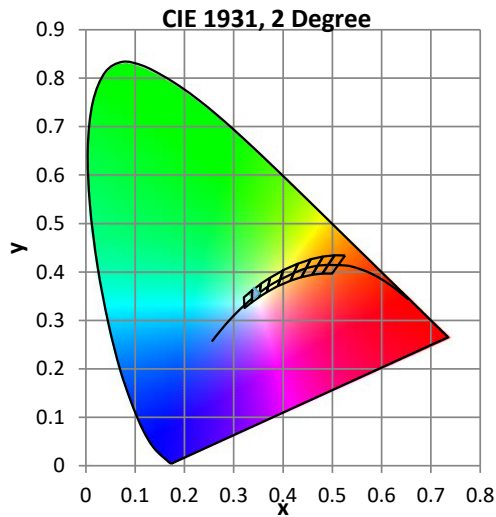
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.4211 A	50.42 W	0.998	60 Hz	4.51 %

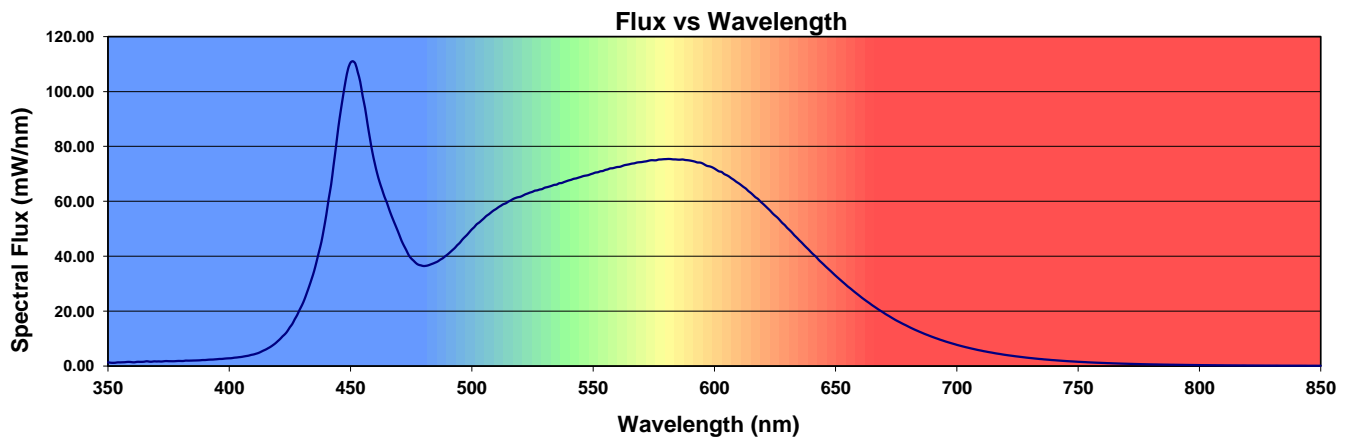
Summary of Results

Total Output:	4783 Lumens	Chromaticity (x):	0.3413
Efficacy:	94.9 lm/w	Chromaticity (y):	0.3558
CCT:	5155 K	Chromaticity (u'):	0.2072
CRI (Ra):	83.2	Chromaticity (v'):	0.4861
CRI (R9):	3.2	TM-30 Rf:	82.7
Peak Wavelength:	451 nm	TM-30 Rg:	94.4
Dominant Wavelength:	567 nm	Duv:	0.0031
S/P Ratio:	2.01		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83.2	80.9	88.9	94.2	82.4	82.0	84.7	86.6	65.8	3.2	73.7	81.7	65.9	83.0	97.1	74.6





Distribution - Goniophotometer

Distribution Test Conditions

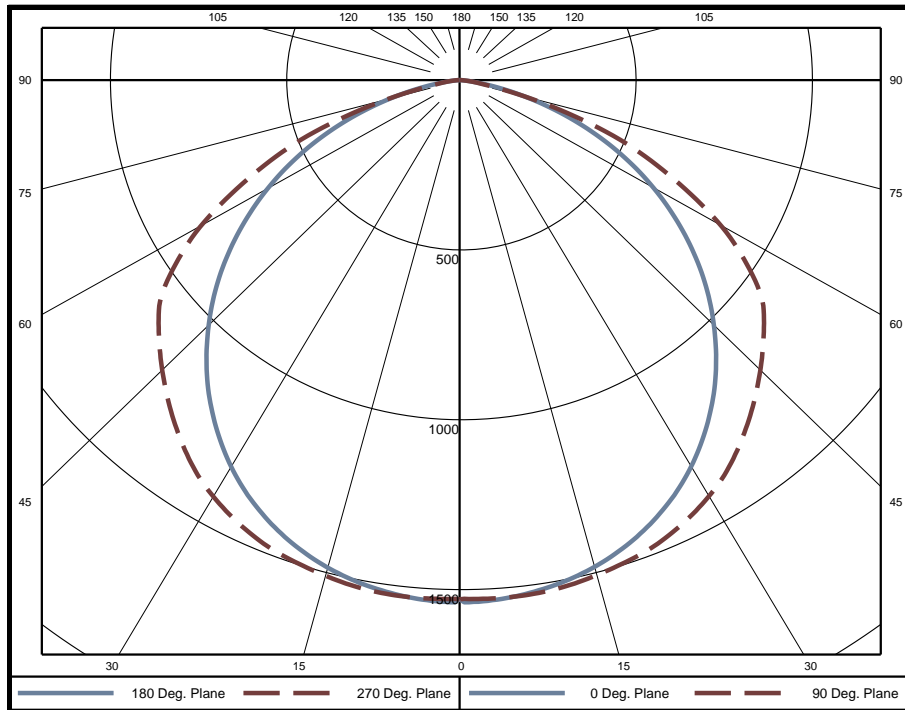
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.4219 A	50.57 W	0.999	60 Hz	4.42 %

Summary of Results

Spacing Criteria
 0-180: 1.27
 90-270: 1.38

Total Lumen Output: 4632 Lumens
Luminaire Efficacy: 91.6 lm/w
Maximum Candela: 1538 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	36.5	0.8%	60-65	342.6	7.4%	120-125	0	0.0%
5-10	108.8	2.3%	65-70	270.1	5.8%	125-130	0	0.0%
10-15	178.5	3.9%	70-75	180.8	3.9%	130-135	0	0.0%
15-20	243.7	5.3%	75-80	89.5	1.9%	135-140	0	0.0%
20-25	302.6	6.5%	80-85	27.5	0.6%	140-145	0	0.0%
25-30	352.7	7.6%	85-90	4.5	0.1%	145-150	0	0.0%
30-35	392.1	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	419.1	9.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	433.1	9.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	433.9	9.4%	105-110	0	0.0%	165-170	0	0.0%
50-55	422.3	9.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	393.4	8.5%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	2034	43.9%
0-60	3717	80.2%
0-90	4632	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	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529	1529
5	1531	1524	1522	1530	1529	1530	1522	1524	1531	1524	1522	1530	1529	1530	1522	1524
10	1513	1508	1511	1523	1524	1523	1511	1508	1513	1508	1511	1523	1524	1523	1511	1508
15	1483	1482	1490	1506	1509	1506	1490	1482	1483	1482	1490	1506	1509	1506	1490	1482
20	1441	1444	1460	1485	1490	1485	1460	1444	1441	1444	1460	1485	1490	1485	1460	1444
25	1385	1393	1418	1450	1460	1450	1418	1393	1385	1393	1418	1450	1460	1450	1418	1393
30	1314	1328	1362	1405	1418	1405	1362	1328	1314	1328	1362	1405	1418	1405	1362	1328
35	1229	1249	1296	1346	1361	1346	1296	1249	1229	1249	1296	1346	1361	1346	1296	1249
40	1131	1159	1220	1272	1290	1272	1220	1159	1131	1159	1220	1272	1290	1272	1220	1159
45	1020	1058	1131	1188	1212	1188	1131	1058	1020	1058	1131	1188	1212	1188	1131	1058
50	902	947	1029	1103	1133	1103	1029	947	902	947	1029	1103	1133	1103	1029	947
55	773	831	922	1012	1029	1012	922	831	773	831	922	1012	1029	1012	922	831
60	636	705	812	864	865	864	812	705	636	705	812	864	865	864	812	705
65	493	566	676	670	657	670	676	566	493	566	676	670	657	670	676	566
70	344	424	490	461	444	461	490	424	344	424	490	461	444	461	490	424
75	201	286	286	233	211	233	286	286	201	286	286	233	211	233	286	286
80	82	137	97	69	64	69	97	137	82	137	97	69	64	69	97	137
85	15	24	20	19	19	19	20	24	15	24	20	19	19	19	20	24
90	1	1	2	3	3	3	2	1	1	1	2	3	3	3	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/m²)
Horizontal Angle (Degrees)

	0	45	90
0	5039	5039	5039
45	4757	5272	5652
55	4440	5296	5915
65	3846	5275	5123
75	2558	3639	2692
85	583	746	728

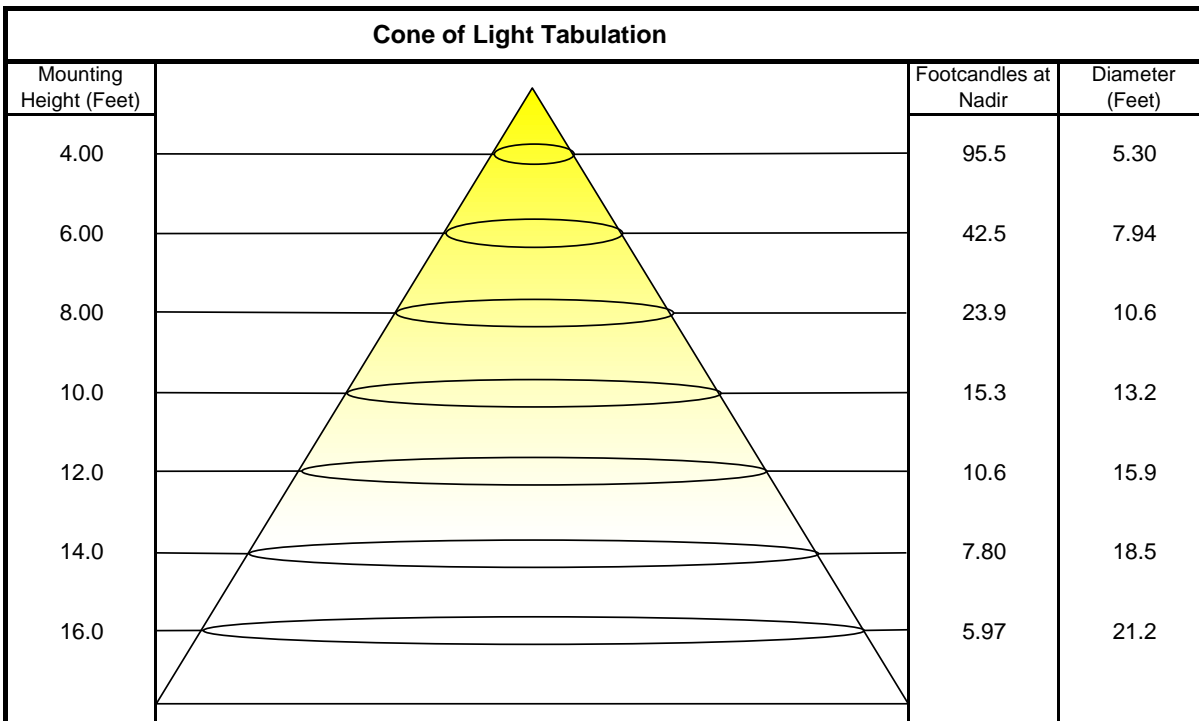


Coefficients of Utilization - Zonal Cavity Method

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	73	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	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	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

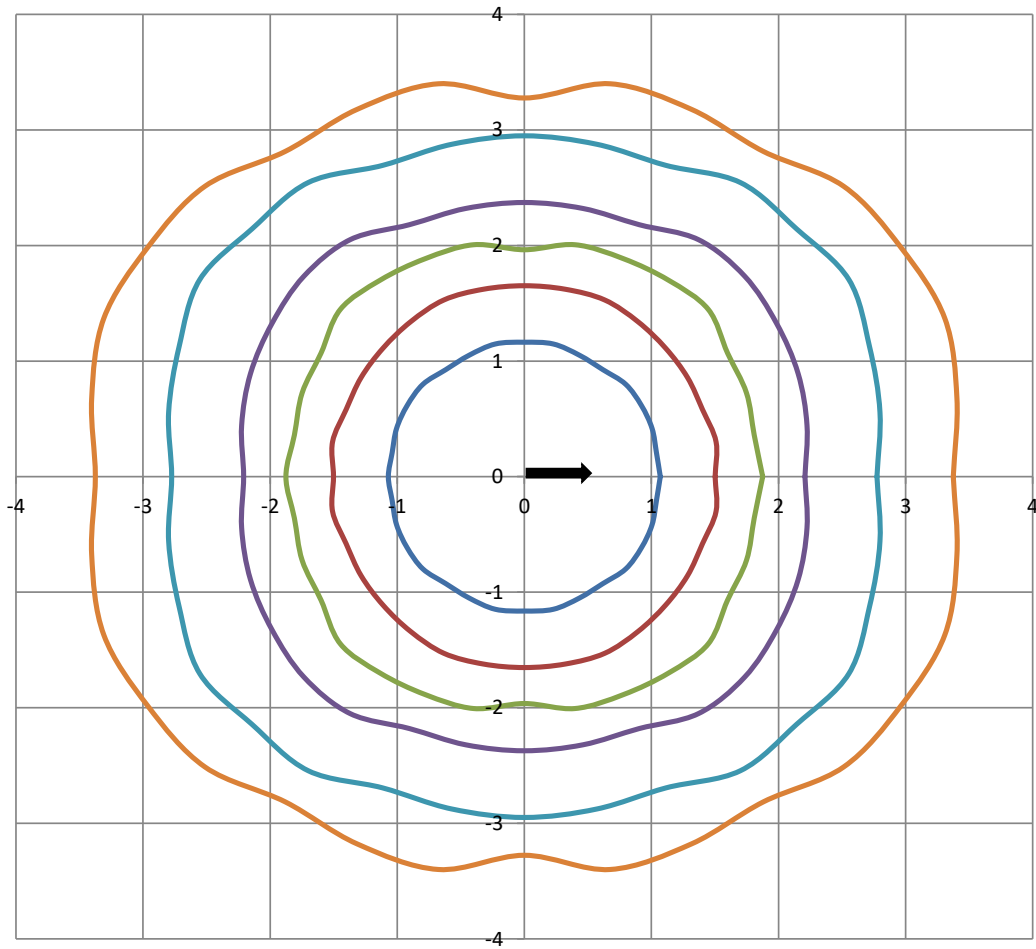
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1529 Candela
Central Cone Intensity:	1528 Candela
Beam Flux:	3756.8 Lumens
Beam Angle (0-180):	110.6 Degrees
Beam Angle (90-270):	124.9 Degrees
Field Angle (0-180):	153.7 Degrees
Field Angle (90-270):	153.0 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

