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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-LEDS5-4L-UNV1-TS

Order Number

12520987

Test Number

12520987.12

Test Date

2018-10-22 - 2018-10-23

Prepared By

Javier Caban, Technician

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 steel housing, clear glass lens enclosure
Lamp: Four T8 Lamps
Mounting: Pendant
Ballast/Driver: One Universal B432IUNVHP-A

Luminaire



Luminaire Characteristics

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

Summary of Results

Integrating Sphere

Luminous Flux: 7030 Lumens
Efficacy: 105.4 lm/w
CCT: 5156 K
CRI (Ra): 83.6

Distribution

Total Luminaire Output: 6814 Lumens
Luminaire Efficacy: 102.1 lm/w
Maximum Candela: 2217 Candela

Electrical Data at 119 VAC

Test Temperature: 24.7 °C
Voltage: 119.9 VAC
Current: 0.5588 A
Power: 66.70 W
Power Factor: 0.995
Frequency: 60 Hz
Current THD: 7.31 %



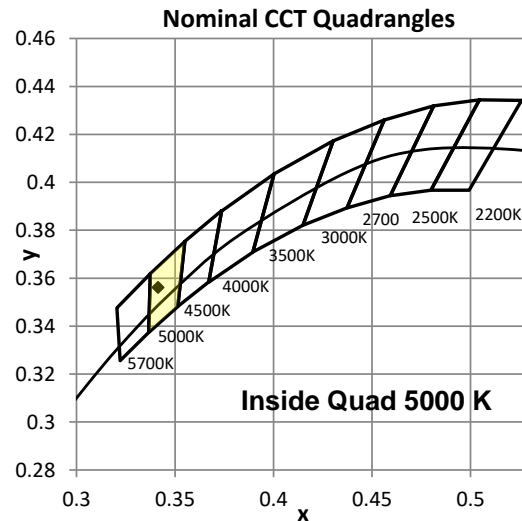
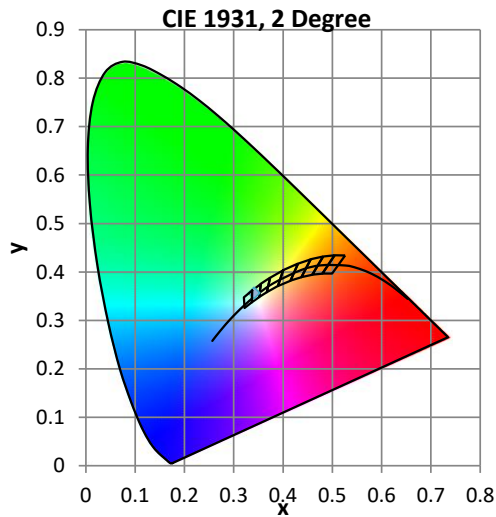
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	119.9 VAC	0.5588 A	66.70 W	0.995	60 Hz	7.31 %

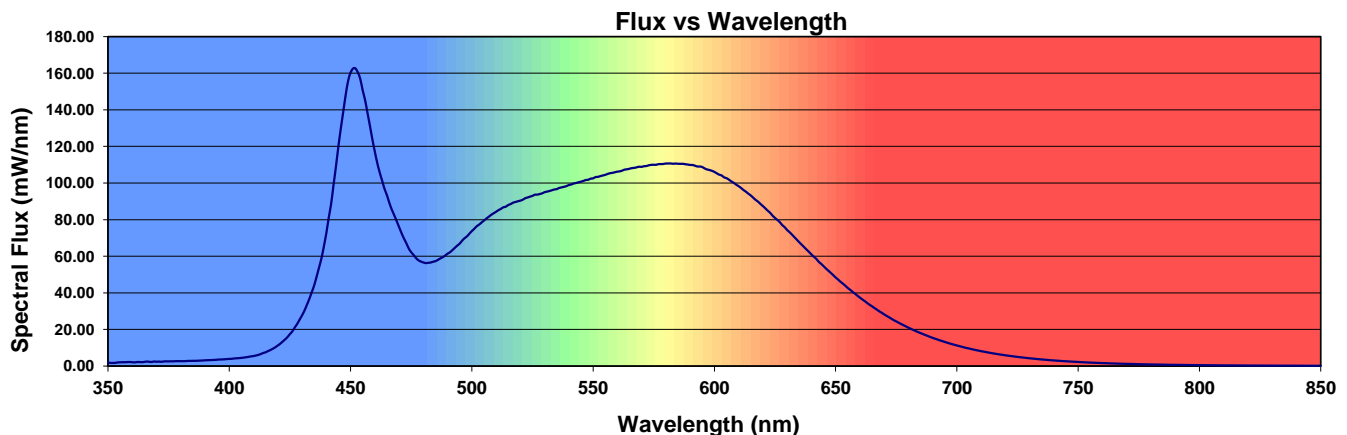
Summary of Results

Total Output:	7030 Lumens	Chromaticity (x):	0.3413
Efficacy:	105.4 lm/w	Chromaticity (y):	0.3562
CCT:	5156 K	Chromaticity (u'):	0.2071
CRI (Ra):	83.6	Chromaticity (v'):	0.4863
CRI (R9):	4.5	TM-30 Rf:	82.8
Peak Wavelength:	452 nm	TM-30 Rg:	93.8
Dominant Wavelength:	567 nm	Duv:	0.0033
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
83.6	81.4	89.9	94.9	82.2	82.4	85.8	86.6	65.8	4.5	75.9	81.5	65.8	83.8	97.5	75.0





Distribution - Goniophotometer

Distribution Test Conditions

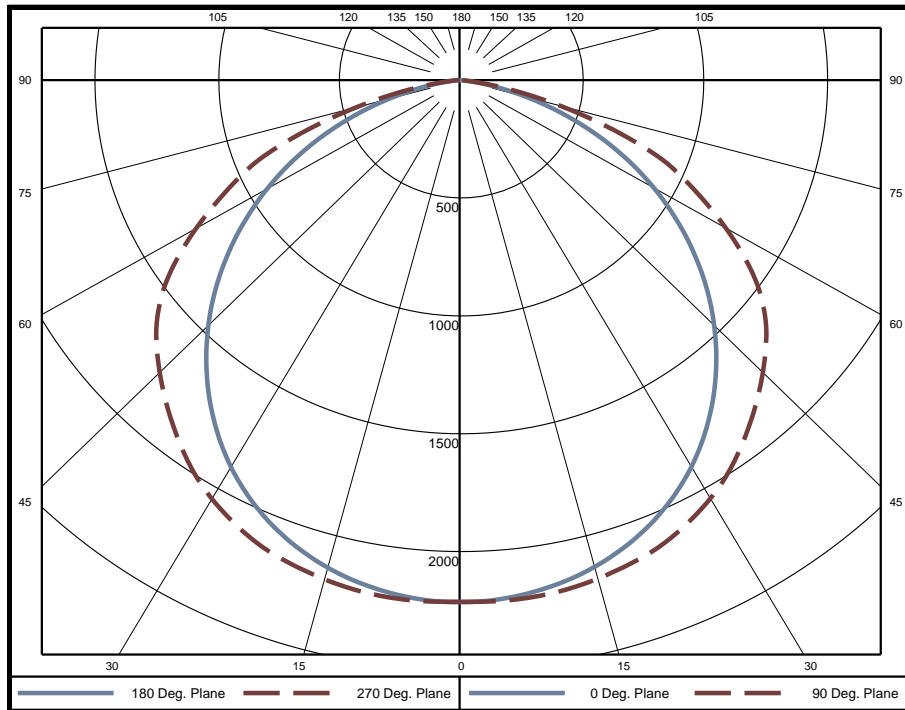
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.0 VAC	0.5586 A	66.75 W	0.996	60 Hz	7.31 %

Summary of Results

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

Total Lumen Output: 6814 Lumens
Luminaire Efficacy: 102.1 lm/w
Maximum Candela: 2217 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	52.9	0.8%	60-65	501.8	7.4%	120-125	0	0.0%
5-10	157.6	2.3%	65-70	410.6	6.0%	125-130	0	0.0%
10-15	258.5	3.8%	70-75	293.0	4.3%	130-135	0	0.0%
15-20	353.2	5.2%	75-80	162.1	2.4%	135-140	0	0.0%
20-25	438.5	6.4%	80-85	54.2	0.8%	140-145	0	0.0%
25-30	511.1	7.5%	85-90	7.1	0.1%	145-150	0	0.0%
30-35	567.9	8.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	606.9	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	627.3	9.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	629.1	9.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	611.7	9.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	570.1	8.4%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	2947	43.2%
0-60	5385	79.0%
0-90	6814	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	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213	2213
5	2205	2205	2208	2217	2215	2217	2208	2205	2205	2205	2208	2217	2215	2217	2208	2205
10	2179	2184	2192	2207	2209	2207	2192	2184	2179	2184	2192	2207	2209	2207	2192	2184
15	2136	2146	2162	2184	2190	2184	2162	2146	2136	2146	2162	2184	2190	2184	2162	2146
20	2076	2092	2121	2153	2161	2153	2121	2092	2076	2092	2121	2153	2161	2153	2121	2092
25	1995	2018	2059	2103	2117	2103	2059	2018	1995	2018	2059	2103	2117	2103	2059	2018
30	1894	1925	1978	2035	2053	2035	1978	1925	1894	1925	1978	2035	2053	2035	1978	1925
35	1770	1811	1880	1948	1970	1948	1880	1811	1770	1811	1880	1948	1970	1948	1880	1811
40	1629	1682	1769	1840	1868	1840	1769	1682	1629	1682	1769	1840	1868	1840	1769	1682
45	1472	1536	1637	1724	1760	1724	1637	1536	1472	1536	1637	1724	1760	1724	1637	1536
50	1300	1376	1493	1602	1644	1602	1493	1376	1300	1376	1493	1602	1644	1602	1493	1376
55	1115	1205	1339	1456	1485	1456	1339	1205	1115	1205	1339	1456	1485	1456	1339	1205
60	919	1022	1180	1255	1267	1255	1180	1022	919	1022	1180	1255	1267	1255	1180	1022
65	714	823	983	1021	1036	1021	983	823	714	823	983	1021	1036	1021	983	823
70	501	618	736	776	768	776	736	618	501	618	736	776	768	776	736	618
75	295	415	482	456	441	456	482	415	295	415	482	456	441	456	482	415
80	122	207	207	183	172	183	207	207	122	207	207	183	172	183	207	207
85	23	47	36	30	30	30	36	47	23	47	36	30	30	30	36	47
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	5133	5133	5133
45	4828	5371	5774
55	4508	5416	6005
65	3918	5392	5684
75	2644	4321	3952
85	603	968	787

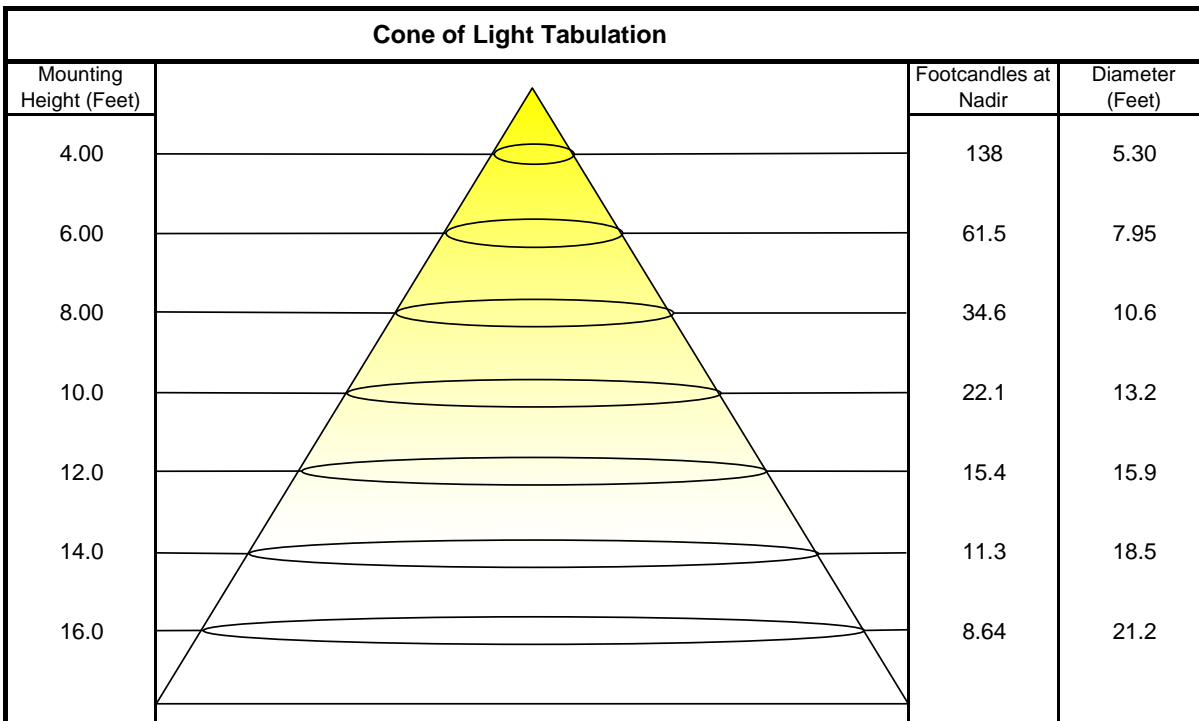


Coefficients of Utilization - Zonal Cavity Method

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	35	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	25	37	30	25	36	30	25	36	29	25	23

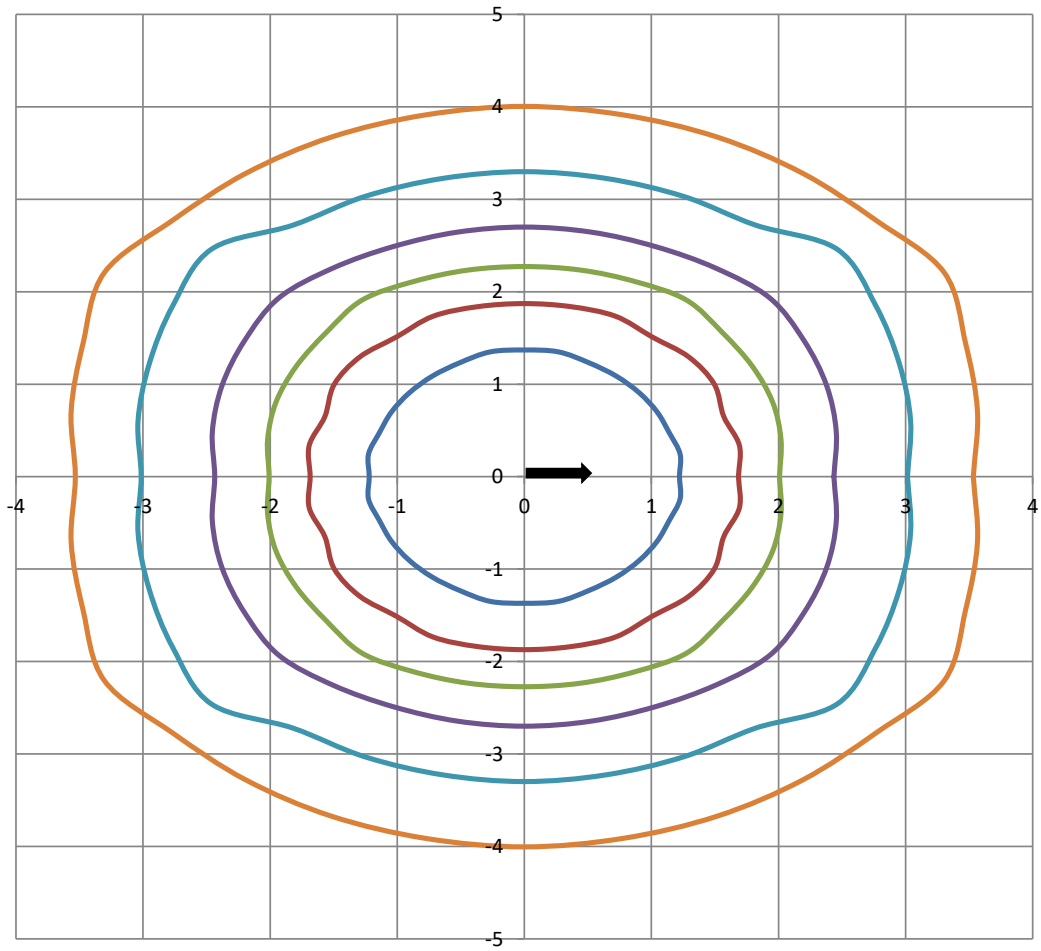
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	2213 Candela
Central Cone Intensity:	2212 Candela
Beam Flux:	5468.0 Lumens
Beam Angle (0-180):	110.4 Degrees
Beam Angle (90-270):	126.9 Degrees
Field Angle (0-180):	153.9 Degrees
Field Angle (90-270):	157.9 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

