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Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002, UL 1598-2008
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2015
IES TM-30-2015

Prepared For
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Catalog Number
LEINS3-P9-4-3-V1-D2-C2-LGL-RS-535-PB
Order Number
11729723
Test Number
11729723.01

Test Date

2017-05-03 - 2017-05-04

Prepared By

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Approved By

Tiffany Hamm, Project Handler

The results contained in this report pertain only to the tested sample.
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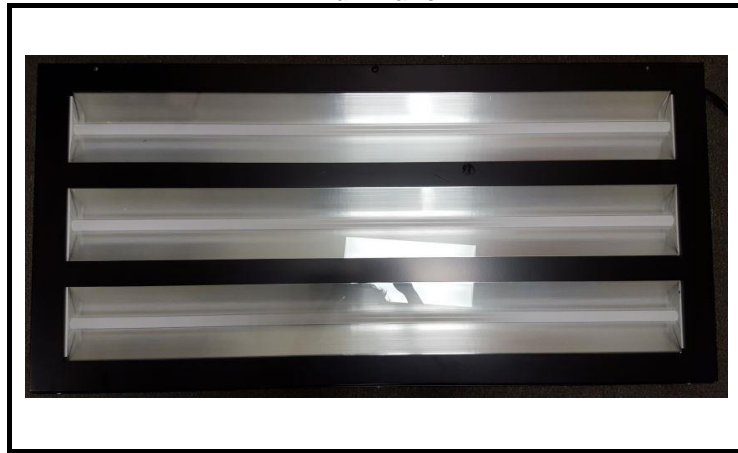
Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 3-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: Formed black steel housing, upper frosted lens, linear prismatic reflectors, clear glass lens enclosure
Lamp: 576 White LEDs
Mounting: Pendant
Ballast/Driver: Philips Advance Xitanium XI054C150V054BST1 driver

Luminaire



Luminaire Characteristics
Luminous Length: 45.25 in.
Luminous Width: 20.50 in.

Summary of Results

Integrating Sphere

Luminous Flux: 9534 Lumens
Efficacy: 110.9 lm/w
CCT: 4292 K
CRI (Ra): 84.9

Distribution

Total Luminaire Output: 8798 Lumens
Luminaire Efficacy: 102.3 lm/w
Maximum Candela: 3910 Candela

Electrical Data at 120 VAC

Test Temperature: 25.0 °C
Voltage: 120.0 VAC
Current: 0.7189 A
Power: 85.94 W
Power Factor: 0.996
Frequency: 60 Hz
Current THD: 4.83 %

In-Situ

LED Temperature: 46.1 °C
Driver Temperature: 42.0 °C
Measured LED Current: 0.08460 A

Temperature is offset to an ambient temperature of 25°C as described in UL1598-2008.



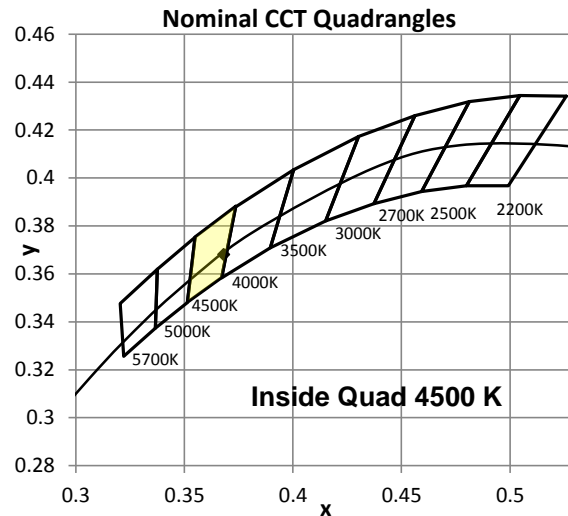
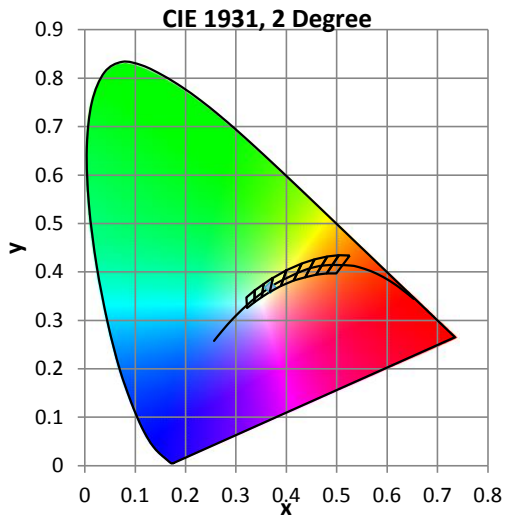
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.7189 A	85.94 W	0.996	60 Hz	4.83 %

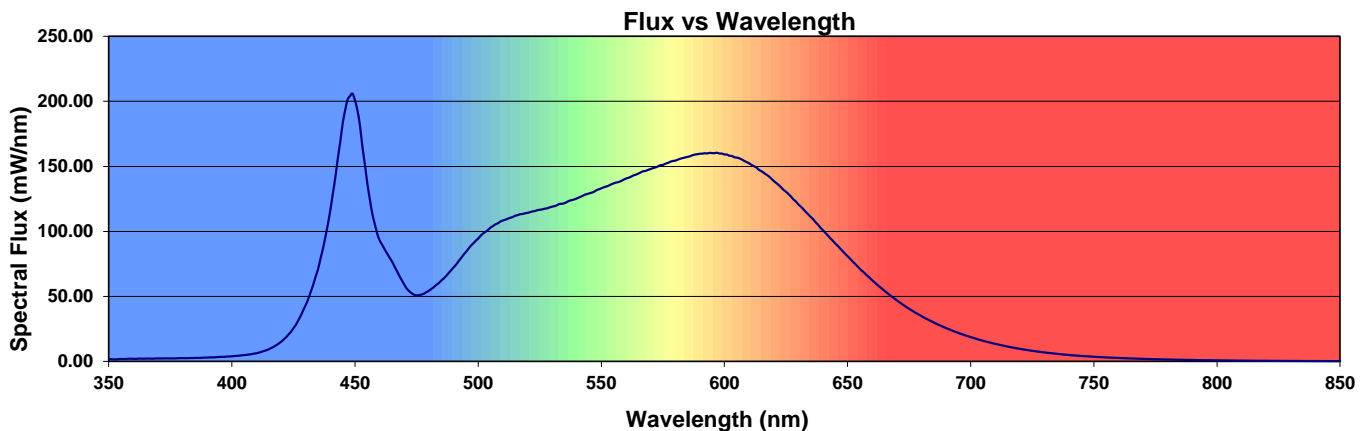
Summary of Results

Total Output:	9534 Lumens	Chromaticity (x):	0.3681
Efficacy:	110.9 lm/w	Chromaticity (y):	0.3680
CCT:	4292 K	Chromaticity (u'):	0.2205
CRI (Ra):	84.9	Chromaticity (v'):	0.4958
CRI (R9):	14.5	TM-30 R_f:	84.2
Peak Wavelength:	448.5 nm	TM-30 R_g:	97.1
Dominant Wavelength:	578.1 nm	Duv:	0.0005
S/P Ratio:	1.794		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
84.9	83.4	89.9	94.9	85.1	84.2	86.4	87.1	67.9	14.5	76.6	85.1	69.2	85.0	97.4





Distribution - Goniophotometer

Distribution Test Conditions

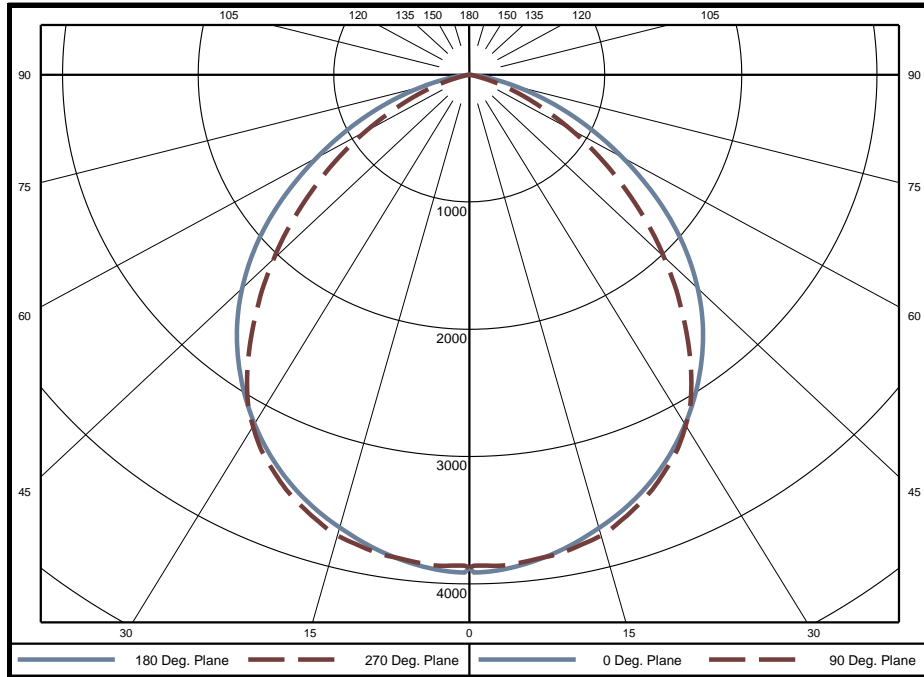
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.3 °C	120.0 VAC	0.7181 A	85.97 W	0.998	60 Hz	4.84 %

Summary of Results

Spacing Criteria
 0-180: 1.22
 90-270: 1.22

Total Lumen Output: 8798 Lumens
Luminaire Efficacy: 102.3 lm/w
Maximum Candela: 3910 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	92.5	1.1%	60-65	441.6	5.0%	120-125	0	0.0%
5-10	274.6	3.1%	65-70	302.8	3.4%	125-130	0	0.0%
10-15	447.4	5.1%	70-75	175.7	2.0%	130-135	0	0.0%
15-20	604.0	6.9%	75-80	73.0	0.8%	135-140	0	0.0%
20-25	736.2	8.4%	80-85	16.0	0.2%	140-145	0	0.0%
25-30	837.6	9.5%	85-90	0.1	0.0%	145-150	0	0.0%
30-35	901.0	10.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	915.9	10.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	882.4	10.0%	100-105	0	0.0%	160-165	0	0.0%
45-50	810.1	9.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	706.7	8.0%	110-115	0	0.0%	170-175	0	0.0%
55-60	580.9	6.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	4809	54.7%
0-60	7789	88.5%
0-90	8799	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	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873	3873
5	3879	3868	3861	3855	3856	3855	3861	3868	3879	3868	3861	3855	3856	3855	3861	3868
10	3799	3821	3813	3815	3822	3815	3813	3821	3799	3821	3813	3815	3822	3815	3813	3821
15	3685	3719	3737	3741	3749	3741	3737	3719	3685	3719	3737	3741	3749	3741	3737	3719
20	3550	3581	3623	3609	3608	3609	3623	3581	3550	3581	3623	3609	3608	3609	3623	3581
25	3379	3407	3437	3429	3425	3429	3437	3407	3379	3407	3437	3429	3425	3429	3437	3407
30	3173	3203	3205	3200	3186	3200	3205	3203	3173	3203	3205	3200	3186	3200	3205	3203
35	2938	2953	2932	2883	2848	2883	2932	2953	2938	2953	2932	2883	2848	2883	2932	2953
40	2675	2666	2589	2474	2439	2474	2589	2666	2675	2666	2589	2474	2439	2474	2589	2666
45	2378	2337	2176	2071	2028	2071	2176	2337	2378	2337	2176	2071	2028	2071	2176	2337
50	2046	1974	1784	1676	1618	1676	1784	1974	2046	1974	1784	1676	1618	1676	1784	1974
55	1679	1603	1417	1283	1230	1283	1417	1603	1679	1603	1417	1283	1230	1283	1417	1603
60	1305	1238	1066	929	868	929	1066	1238	1305	1238	1066	929	868	929	1066	1238
65	958	896	735	600	550	600	735	896	958	896	735	600	550	600	735	896
70	639	588	442	337	302	337	442	588	639	588	442	337	302	337	442	588
75	360	323	207	130	105	130	207	323	360	323	207	130	105	130	207	323
80	147	119	42	27	25	27	42	119	147	119	42	27	25	27	42	119
85	17	2	0	0	0	0	0	2	17	2	0	0	0	0	0	2
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)

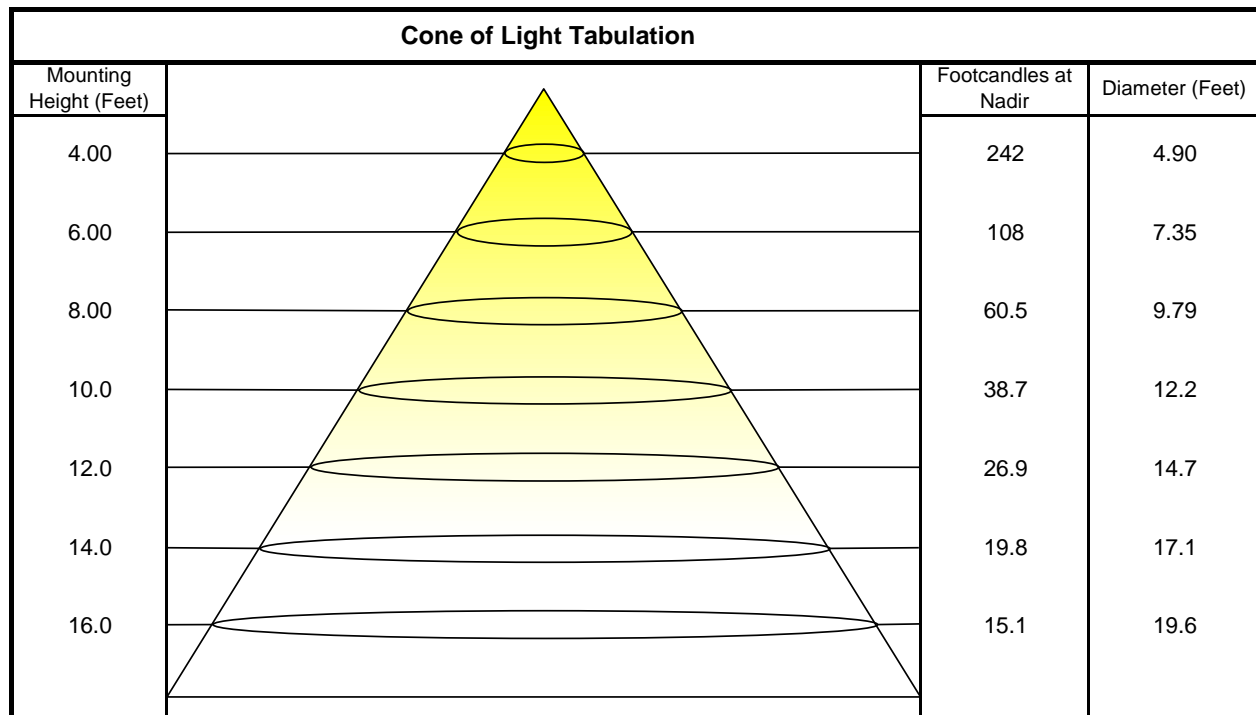
	0	45	90
0	6472	6472	6472
45	5620	5142	4792
55	4890	4128	3585
65	3787	2907	2174
75	2327	1336	676
85	328	0	9



Utilization of Lumens - 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 Lumens delivered to the task surface **																	
0	10474	10474	10474	10474	10231	10231	10231	10231	9776	9776	9776	9360	9360	9360	8978	8978	8978	8798
1	9733	9382	9068	8784	9502	9186	8901	8642	8819	8586	8372	8481	8293	8118	8170	8020	7880	7706
2	8962	8333	7812	7374	8742	8171	7694	7288	7867	7467	7122	7588	7255	6963	7329	7055	6811	6635
3	8246	7422	6784	6276	8039	7287	6697	6221	7033	6529	6114	6799	6370	6010	6581	6220	5911	5734
4	7601	6646	5947	5413	7409	6533	5881	5376	6320	5753	5305	6122	5632	5236	5938	5517	5168	4992
5	7025	5987	5261	4725	6850	5892	5210	4701	5711	5111	4652	5543	5017	4604	5387	4926	4557	4383
6	6513	5425	4694	4170	6352	5344	4654	4153	5190	4576	4118	5047	4501	4084	4913	4429	4050	3880
7	6056	4943	4221	3715	5911	4874	4189	3702	4743	4126	3677	4620	4065	3652	4504	4007	3627	3463
8	5651	4528	3823	3338	5518	4469	3796	3328	4356	3745	3309	4250	3695	3290	4150	3648	3272	3113
9	5289	4169	3484	3021	5169	4118	3462	3013	4020	3420	2999	3928	3379	2984	3841	3339	2970	2817
10	4965	3857	3193	2752	4856	3812	3175	2746	3727	3140	2735	3647	3106	2723	3571	3072	2712	2565

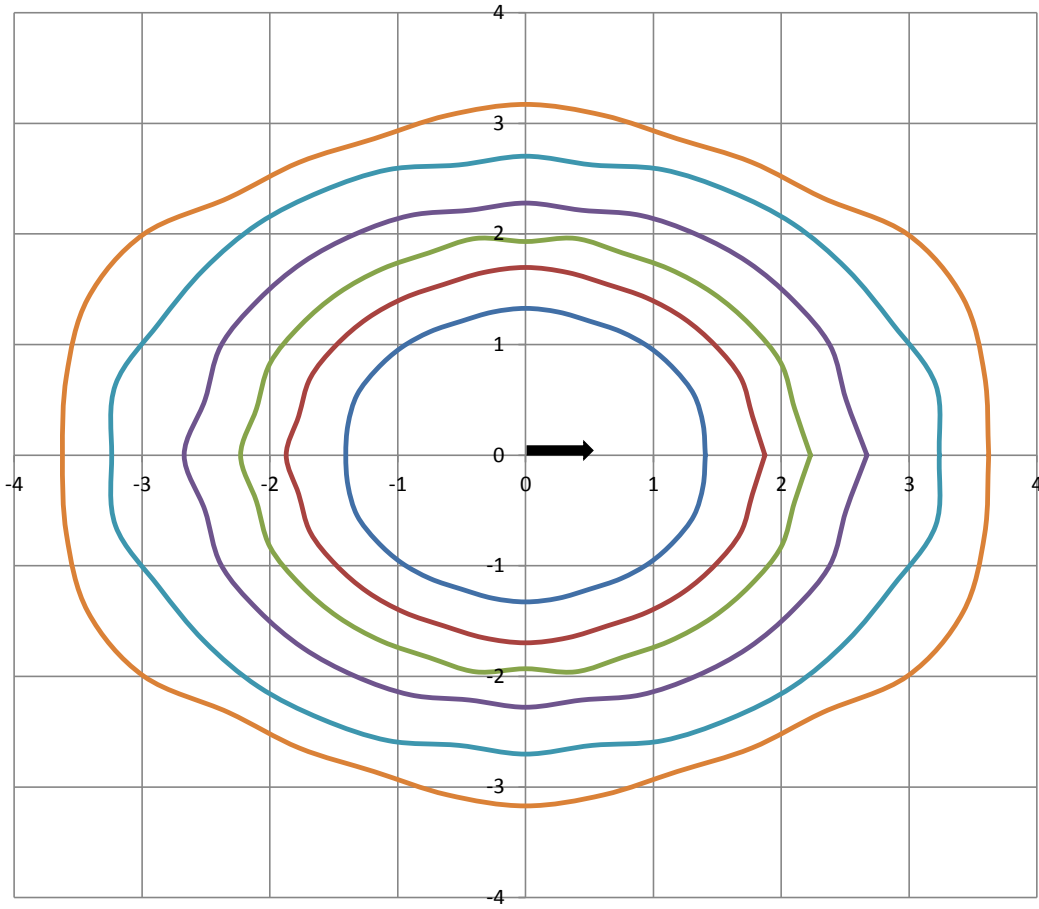
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	3873 Candela
Central Cone Intensity:	3870 Candela
Beam Flux:	6283.9 Lumens
Beam Angle (0-180):	103.0 Degrees
Beam Angle (90-270):	92.3 Degrees
Field Angle (0-180):	148.9 Degrees
Field Angle (90-270):	136.3 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height





In-Situ Test

In-Situ Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.0 VAC	N/A	N/A	N/A	60 Hz	N/A

Summary of Results

LED Temperature: 46.1 °C
Driver Temperature: 42.0 °C
Measured LED Current: 0.08460 A

Temperatures are offset to an ambient temperature of 25°C as described in UL1598-2008

LED Temperature Location



Driver Temperature Location

