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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 C78.377-2015, IES TM-30-2015

Prepared For

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Catalog Number

LPT-24-L90/827-SA19156

Order Number

12212385

Test Number

12212385.08

Test Date

2018-03-15

Prepared By

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Approved By

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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 patterned plastic lens enclosure
Lamp: 112 white LEDs
Mounting: Recessed
Ballast/Driver: One Universal Lighting Technologies D21CC80347TW-D driver

Luminaire



Luminaire Characteristics

Luminous Length: 45.00 in.
Luminous Width: 21.25 in.

Summary of Results

Integrating Sphere

Luminous Flux: 7950 Lumens
Efficacy: 109.3 lm/w
CCT: 2802 K
CRI (Ra): 82.9

Distribution

Total Luminaire Output: 7790 Lumens
Luminaire Efficacy: 107.1 lm/w
Maximum Candela: 4047 Candela

Electrical Data at 346 VAC

Test Temperature: 25.0 °C
Voltage: 346.9 VAC
Current: 0.2143 A
Power: 72.71 W
Power Factor: 0.978
Frequency: 60 Hz
Current THD: 9.51 %



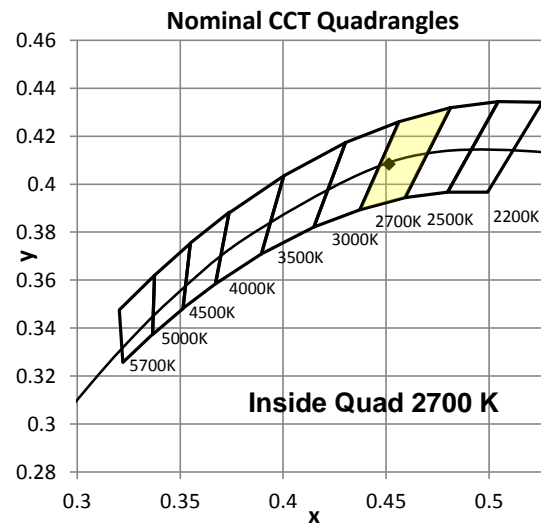
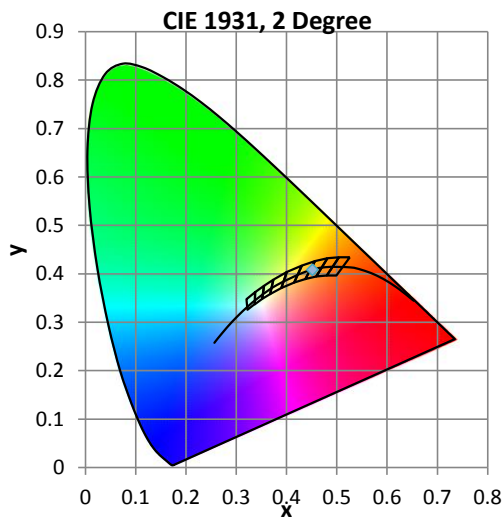
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	346.9 VAC	0.2143 A	72.71 W	0.978	60 Hz	9.51 %

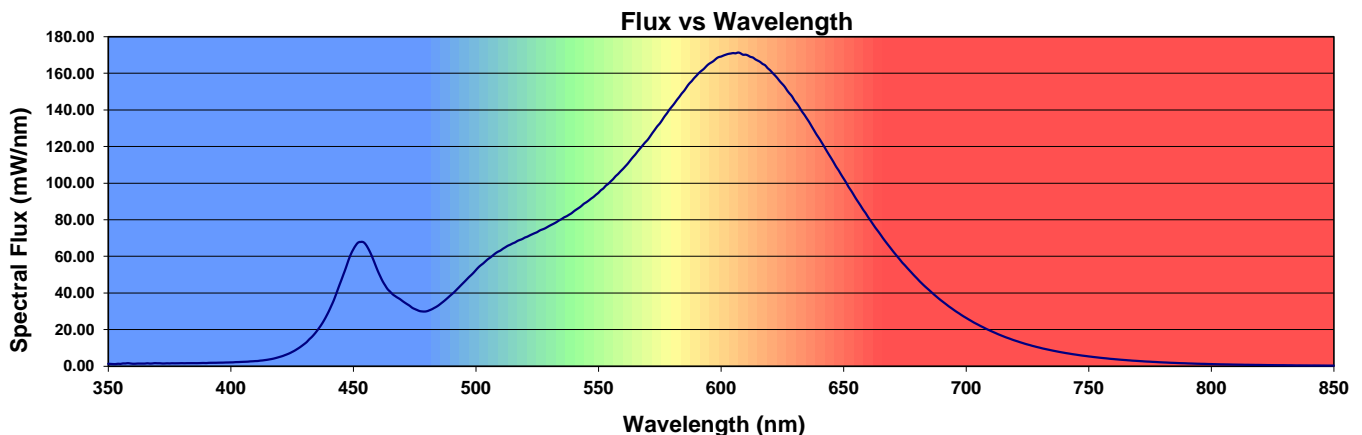
Summary of Results

Total Output:	7950 Lumens	Chromaticity (x):	0.4515
Efficacy:	109.3 lm/w	Chromaticity (y):	0.4084
CCT:	2802 K	Chromaticity (u'):	0.2581
CRI (Ra):	82.9	Chromaticity (v'):	0.5252
CRI (R9):	7.8	TM-30 Rf:	84.1
Peak Wavelength:	606.4 nm	TM-30 Rg:	95.4
Dominant Wavelength:	583.7 nm	Duv:	0.0001
S/P Ratio:	1.277		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82.9	81.6	92.4	94.9	80.8	82.2	91.9	81.5	57.7	7.8	83.2	80.9	77.7	84.3	97.9	73.5





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	347.1 VAC	0.2142 A	72.72 W	0.978	60 Hz	9.75 %

Summary of Results

Spacing Criteria

0-180: 1.22

90-270: 1.20

Total Lumen Output:

7790 Lumens

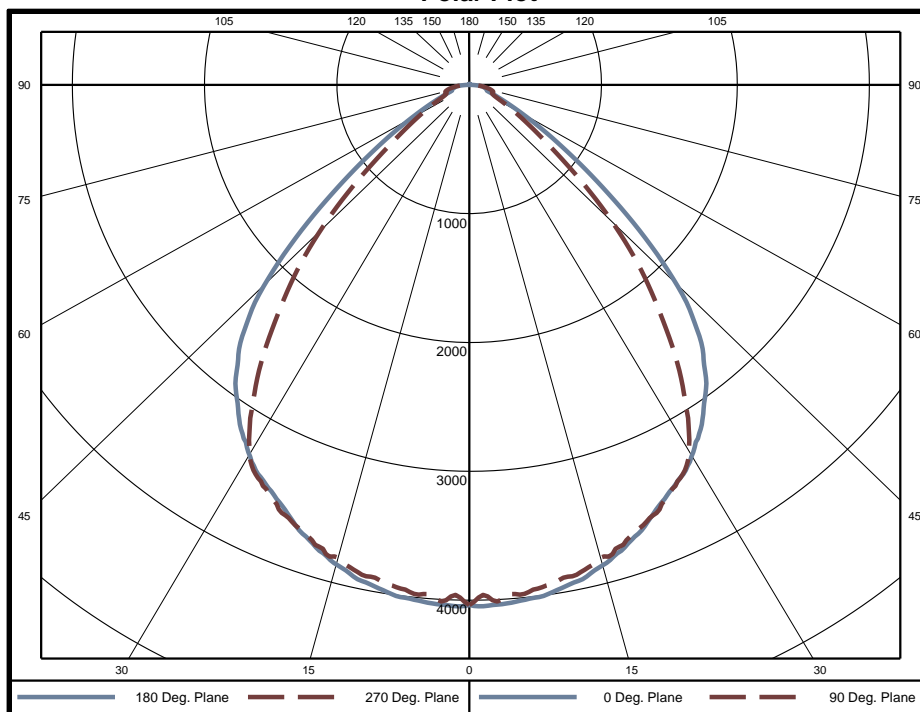
Luminaire Efficacy:

107.1 lm/w

Maximum Candela:

4047 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	95.5	1.2%	60-65	231.5	3.0%	120-125	0	0.0%
5-10	283.1	3.6%	65-70	173.0	2.2%	125-130	0	0.0%
10-15	459.7	5.9%	70-75	128.1	1.6%	130-135	0	0.0%
15-20	619.4	8.0%	75-80	95.5	1.2%	135-140	0	0.0%
20-25	755.7	9.7%	80-85	62.2	0.8%	140-145	0	0.0%
25-30	864.3	11.1%	85-90	24.9	0.3%	145-150	0	0.0%
30-35	924.1	11.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	900.1	11.6%	95-100	0	0.0%	155-160	0	0.0%
40-45	788.2	10.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	616.0	7.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	446.5	5.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	321.8	4.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	4902	62.9%
0-60	7074	90.8%
0-90	7790	100.0%
90-180	0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical 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	4036	4036	4036	4036	4036	4036	4036	4036	4036	4036	4036	4036	4036	4036	4036
	5	4026	3983	3989	3957	3966	3957	3989	3983	4026	3983	3989	3957	3966	3957	3989
	10	3967	3918	3899	3917	3901	3917	3899	3918	3967	3918	3899	3917	3901	3917	3899
	15	3860	3832	3816	3818	3800	3818	3816	3832	3860	3832	3816	3818	3800	3818	3816
	20	3707	3698	3684	3678	3679	3678	3684	3698	3707	3698	3684	3678	3679	3678	3684
	25	3512	3518	3504	3521	3532	3521	3504	3518	3512	3518	3504	3521	3532	3521	3504
	30	3332	3303	3301	3312	3312	3312	3301	3303	3332	3303	3301	3312	3312	3312	3301
	35	3064	3038	2993	2835	2780	2835	2993	3038	3064	3038	2993	2835	2780	2835	2993
	40	2731	2670	2399	2219	2166	2219	2399	2670	2731	2670	2399	2219	2166	2219	2399
	45	2211	2040	1738	1640	1556	1640	1738	2040	2211	2040	1738	1640	1556	1640	1738
	50	1484	1428	1229	1118	950	1118	1229	1428	1484	1428	1229	1118	950	1118	1229
	55	882	986	909	751	564	751	909	986	882	986	909	751	564	751	909
	60	492	694	651	514	346	514	651	694	492	694	651	514	346	514	651
	65	268	525	446	386	218	386	446	525	268	525	446	386	218	386	446
	70	152	387	277	319	183	319	277	387	152	387	277	319	183	319	277
	75	139	269	156	253	181	253	156	269	139	269	156	253	181	253	156
	80	111	186	94	185	136	185	94	186	111	186	94	185	136	185	94
	85	75	92	61	108	75	108	61	92	75	92	61	108	75	108	61
	90	4	6	7	11	7	11	7	6	4	6	7	11	7	11	7
	95	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
	105	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
	115	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
	125	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
	135	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
	145	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
	155	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
	165	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
	175	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

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	6542	6542
	45	5069	3985
	55	2491	2567
	65	1027	1712
	75	867	977
	85	1395	1141



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	9273	9273	9273	9273	9058	9058	9058	9058	8655	8655	8655	8287	8287	8287	7949	7949	7949	7790
1	8636	8333	8061	7817	8432	8160	7913	7690	7835	7634	7450	7537	7375	7225	7262	7133	7013	6860
2	8006	7475	7037	6668	7814	7334	6932	6590	7068	6731	6441	6822	6543	6298	6595	6366	6162	6011
3	7419	6730	6196	5771	7241	6613	6119	5721	6392	5971	5624	6187	5831	5531	5997	5697	5441	5290
4	6885	6087	5503	5057	6721	5989	5445	5023	5804	5332	4958	5633	5225	4895	5473	5123	4834	4685
5	6401	5532	4925	4476	6251	5450	4880	4453	5294	4793	4409	5149	4710	4365	5013	4630	4322	4175
6	5964	5050	4437	3998	5827	4981	4402	3981	4848	4333	3949	4725	4267	3918	4609	4204	3887	3744
7	5569	4631	4023	3597	5444	4571	3995	3585	4458	3940	3562	4352	3887	3539	4253	3835	3516	3377
8	5213	4265	3668	3259	5100	4213	3645	3250	4116	3600	3232	4025	3557	3215	3939	3515	3198	3063
9	4892	3943	3362	2969	4789	3899	3343	2963	3815	3306	2949	3735	3270	2936	3660	3235	2923	2793
10	4603	3660	3096	2720	4509	3622	3080	2715	3548	3049	2705	3479	3019	2694	3413	2990	2684	2559

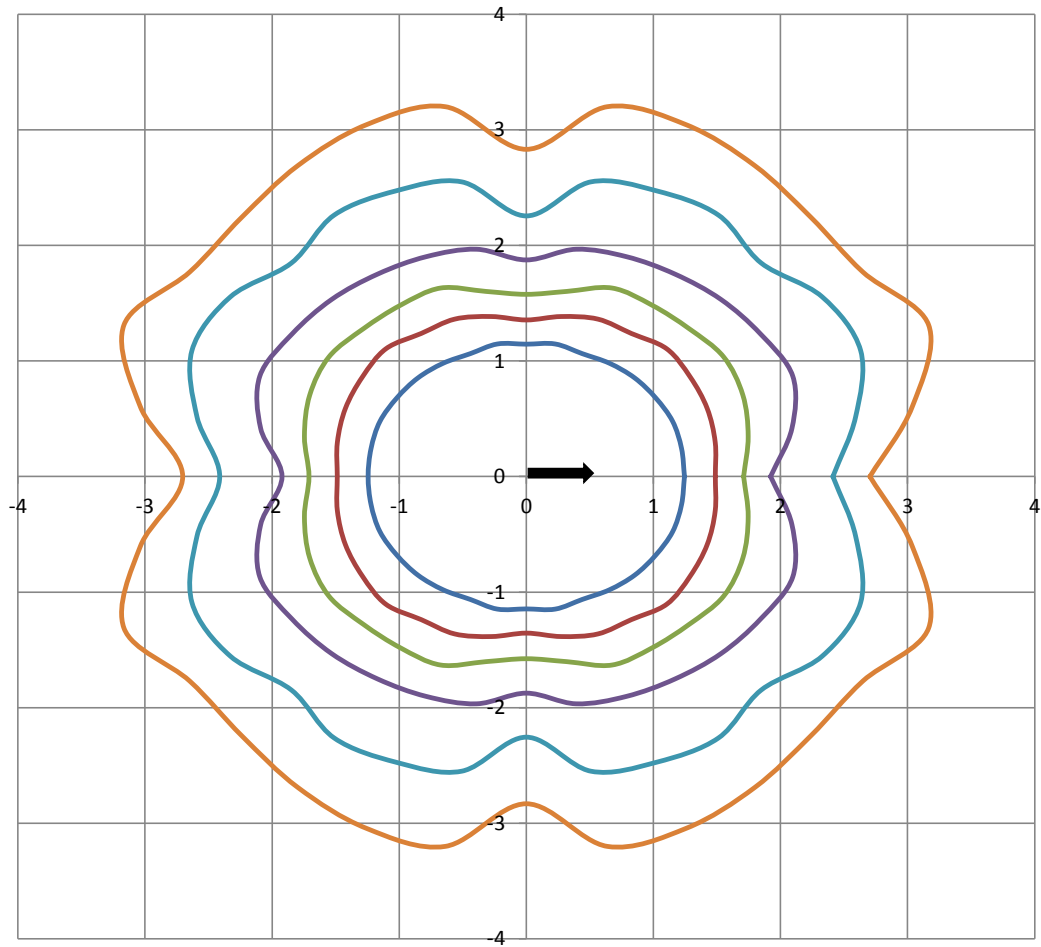
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4036 Candela
Central Cone Intensity:	4002 Candela
Beam Flux:	5465.4 Lumens
Beam Angle (0-180):	92.7 Degrees
Beam Angle (90-270):	82.6 Degrees
Field Angle (0-180):	123.2 Degrees
Field Angle (90-270):	116.9 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		252	4.86
6.00		112	7.28
8.00		63.1	9.71
10.0		40.4	12.1
12.0		28.0	14.6
14.0		20.6	17.0
16.0		15.8	19.4



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc 2 fc 1 fc 0.5 fc 0.2 fc 0.1 fc