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Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-10-2014, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2017, IES TM-30-2018

Prepared For
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MX2U-4-L8/835-FA
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Test Number
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Revision of Test Number 13052732.12 on:
2019-10-30
Test Date

2019-10-11 - 2019-10-15

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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 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: Formed White aluminum housing,frosted lens enclosure
Lamp: 144 White LEDs
Mounting: Pendant
Ballast/Driver: One Philips XI040C110V054BST1 Driver

Luminaire



Luminaire Characteristics

Luminous Length: 48.00 in.
Luminous Width: 2.000 in.

Summary of Results

Integrating Sphere

Luminous Flux: 3205 Lumens
Efficacy: 133.41 lm/w
CCT: 3456 K
CRI (Ra): 82.6

Distribution

Total Luminaire Output: 3082 Lumens
Luminaire Efficacy: 128.3 lm/w
Maximum Candela: 1175 Candela

Electrical Data at 120 VAC

Test Temperature: 25.1 °C
Voltage: 120.1 VAC
Current: 0.2017 A
Power: 24.02 W
Power Factor: 0.992
Frequency: 60 Hz
Current THD: 10.7 %



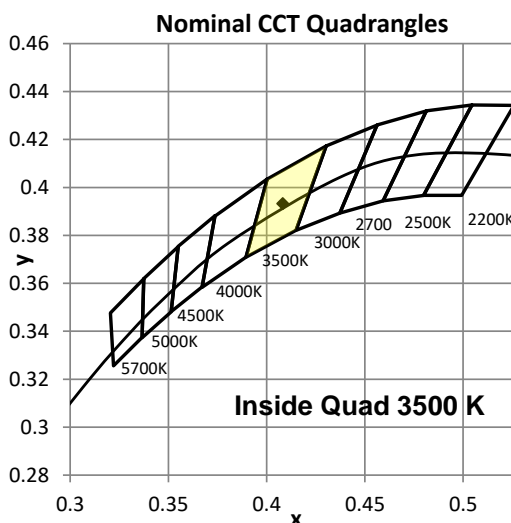
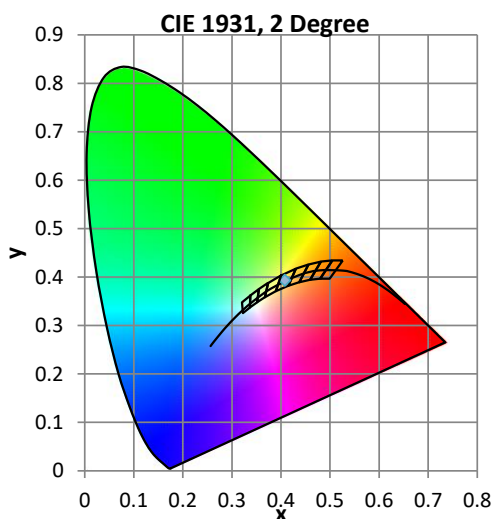
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.1 VAC	0.2017 A	24.02 W	0.992	60 Hz	10.7 %

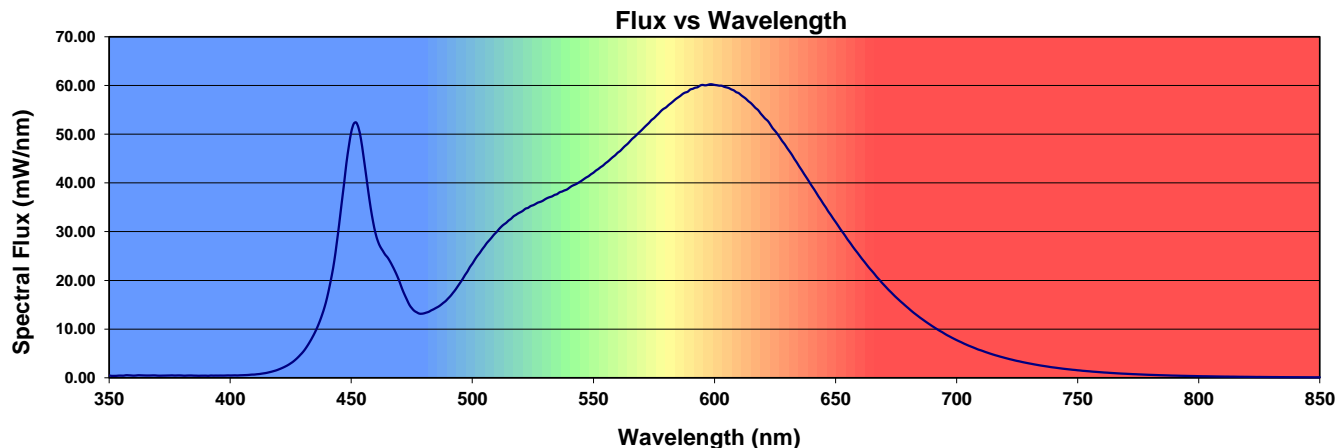
Summary of Results

Total Output:	3205 Lumens	Chromaticity (x):	0.4082
Efficacy:	133.4 lm/w	Chromaticity (y):	0.3933
CCT:	3456 K	Chromaticity (u'):	0.2365
CRI (Ra):	82.6	Chromaticity (v'):	0.5128
CRI (R9):	5.2	TM-30 Rf:	84.2
Peak Wavelength:	599 nm	TM-30 Rg:	95.2
Dominant Wavelength:	581 nm	Duv:	0.0002
S/P Ratio:	1.51		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82.6	80.8	89.9	96.3	80.9	80.9	86.7	84.2	60.8	5.2	76.6	80.2	64.3	83.0	98.4	73.6





Distribution - Goniophotometer

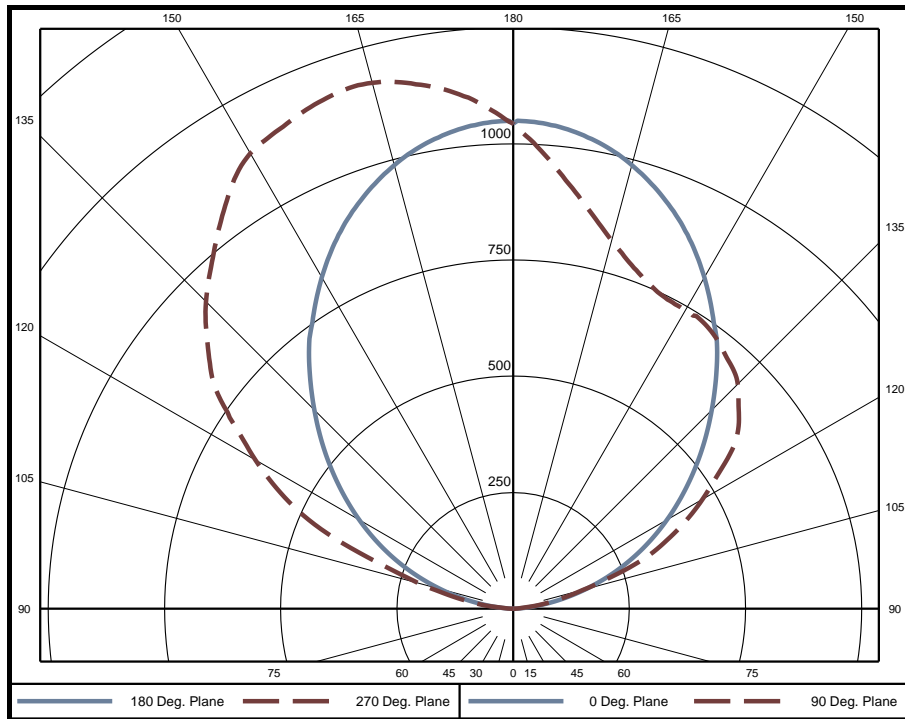
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.0 VAC	0.2017 A	24.02 W	0.992	60 Hz	10.7 %

Summary of Results

Total Lumen Output:	3082 Lumens
Luminaire Efficacy:	128.3 lm/w
Maximum Candela:	1175 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0	0.0%	60-65	0	0.0%	120-125	254.0	8.2%
5-10	0	0.0%	65-70	0	0.0%	125-130	275.5	8.9%
10-15	0	0.0%	70-75	0	0.0%	130-135	284.4	9.2%
15-20	0	0.0%	75-80	0	0.0%	135-140	283.5	9.2%
20-25	0	0.0%	80-85	0	0.0%	140-145	274.1	8.9%
25-30	0	0.0%	85-90	0	0.0%	145-150	255.7	8.3%
30-35	0	0.0%	90-95	7.8	0.3%	150-155	229.0	7.4%
35-40	0	0.0%	95-100	34.9	1.1%	155-160	196.9	6.4%
40-45	0	0.0%	100-105	77.0	2.5%	160-165	160.4	5.2%
45-50	0	0.0%	105-110	129.6	4.2%	165-170	118.9	3.9%
50-55	0	0.0%	110-115	180.6	5.9%	170-175	73.4	2.4%
55-60	0	0.0%	115-120	221.8	7.2%	175-180	24.9	0.8%

Zone	Lumens	% of Luminaire
0-40	0	0.0%
0-60	0	0.0%
0-90	0	0.0%
90-180	3082	100.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	90	2	3	3	2	1	2	3	3	2	5	5	4	4	4	5
	95	33	31	27	20	19	20	27	31	33	41	41	34	28	34	41
	100	91	100	86	83	80	83	86	100	91	115	114	109	109	109	114
	105	161	181	188	167	154	167	188	181	161	208	248	212	210	212	248
	110	235	269	281	290	278	290	281	269	235	304	365	380	353	380	365
	115	309	345	372	384	381	384	372	345	309	396	483	516	522	516	483
	120	382	420	466	472	470	472	466	420	382	496	608	633	640	633	608
	125	455	486	536	564	563	564	536	486	455	593	707	759	759	759	707
	130	529	544	592	629	634	629	592	544	529	687	792	847	855	847	792
	135	604	592	641	672	683	672	641	592	604	772	876	925	934	925	876
	140	682	637	678	704	711	704	678	637	682	853	953	997	1001	997	953
	145	753	682	699	729	735	729	699	682	753	922	1019	1067	1073	1067	1019
	150	823	731	716	737	741	737	716	731	823	977	1066	1119	1131	1119	1066
	155	888	781	745	746	748	746	745	781	888	1021	1098	1142	1152	1142	1098
	160	943	843	792	777	775	777	792	843	943	1049	1117	1161	1170	1161	1117
	165	988	906	851	828	819	828	851	906	988	1067	1120	1160	1171	1160	1120
	170	1022	965	917	893	884	893	917	965	1022	1073	1108	1137	1145	1137	1108
	175	1044	1013	983	968	962	968	983	1013	1044	1067	1082	1098	1104	1098	1082
	180	1044	1044	1044	1044	1044	1044	1044	1044	1044	1044	1044	1044	1044	1044	1044



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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	57	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

Up Light Beam and Field Information	
CIE Type:	Indirect
Center Beam Intensity:	1044 Candela
Central Cone Intensity:	1041 Candela
Beam Flux:	3082.3 Lumens
Beam Angle (0-180):	101.0 Degrees
Beam Angle (90-270):	122.0 Degrees
Field Angle (0-180):	158.0 Degrees
Field Angle (90-270):	158.5 Degrees