



Product Test Report - Radiometric/Photometric Flux

Method: LM-79-08

Test results reported for:

Slim Beam S

Product Description: Decorative LED Linear Pendant

Issued Report:

LIGT007-050

Original issue date:

Tuesday, July 23, 2019

Revision Issue Date:

First Issue

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Test Technician
Test & Measurement Services

Test report approved by:

A handwritten signature in blue ink that reads 'Aaron Miller'.

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Laboratory Manager
Test & Measurement Services

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SAMPLE DESCRIPTION

Lab sample identification: 5

Customer Identification: LIGT

Manufacturer: LightArt

Part number: -

Model Number: Slim Beam S

Description: Decorative LED Linear Pendant

Manufacturer's ratings

Max Current (A):	-
Operating voltage:	120.0
CCT:	-
Frequency (Hz):	60
Type:	LED

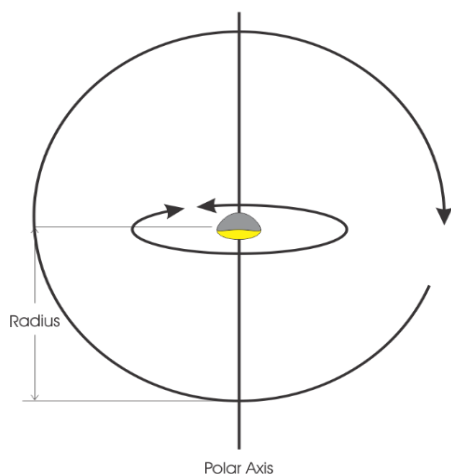
Sample Device as Received



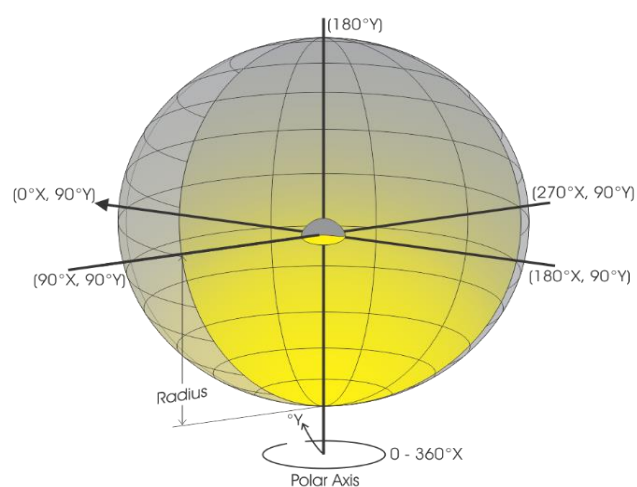
Sample Device Mounted to Test Apparatus



Equipment Geometry -



Test Geometry - Type C Coordinates



Coordinate System Description

Reference: LM-75-01 Goniophotometer Types and Photometric Coordinates

Type C coordinate system, the polar axis is vertical. The angles measure in the vertical half planes of data are call Veridical angles, and the angles to the horizontal half planes are called Lateral angles. The vertical V angles range in value from 0° to 180°. The lateral L planes range in value from 0° to 360°.

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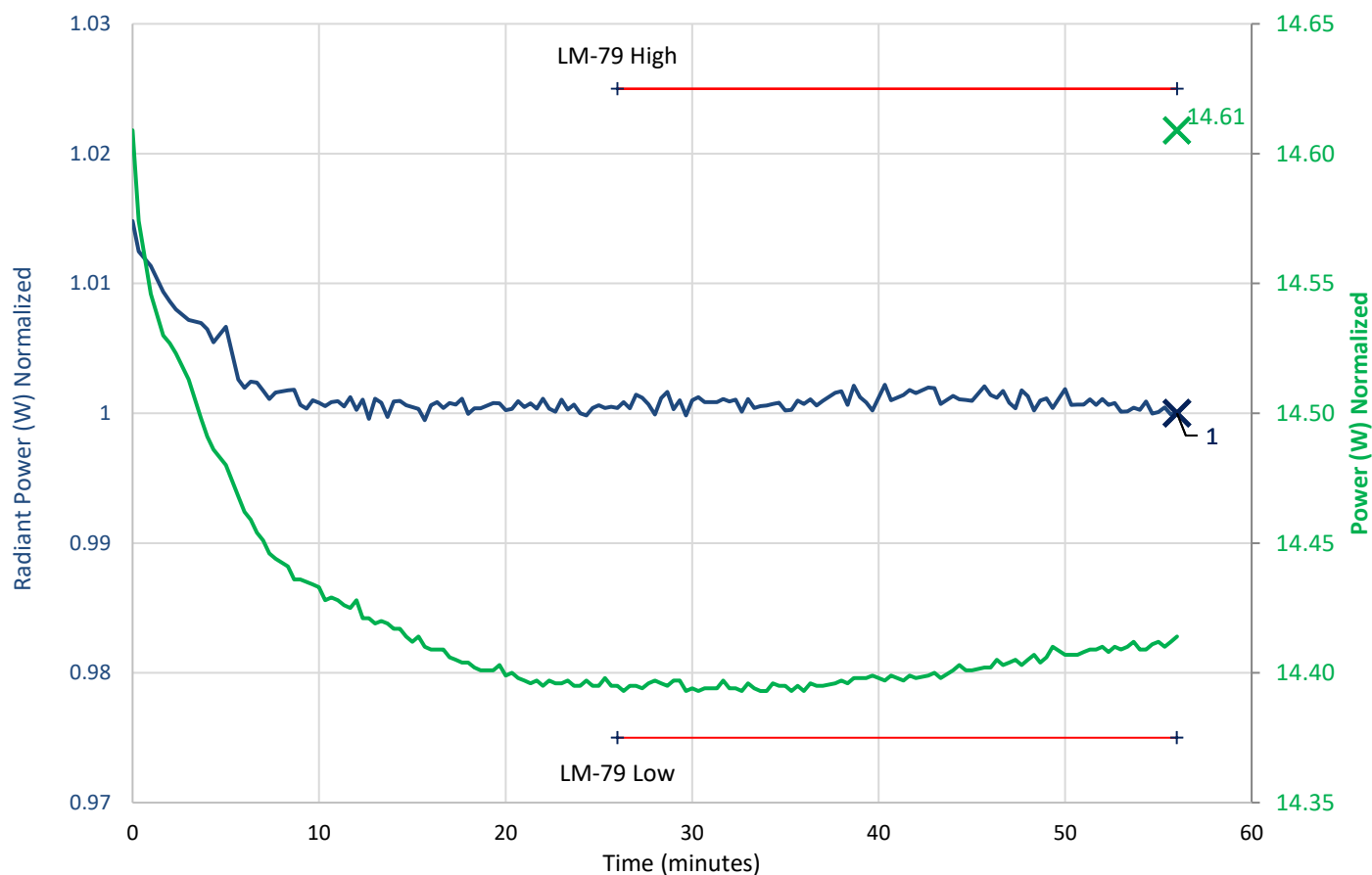
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RADIOMETRIC STABILIZATION

Stabilization Description - A series of 152 measurements are recorded during the stabilization period. The final stabilized measurement, as defined by LM-79-08, is reported after 56 minutes of device runtime.

% of range	Radiant Power (W) Normalized	Measurements in Range
99.946%	1.00	91
100.100%	1.00	50
100.253%	1.00	1
100.407%	1.00	1
100.560%	1.01	3
100.714%	1.01	3
100.867%	1.01	1
101.020%	1.01	1
101.174%	1.01	1
101.327%	1.01	1
100.000%	1.00	Reported

% of range	Power (W) Normalized	Measurements in Range
97.885%	14.30	0
98.096%	14.33	0
98.308%	14.36	0
98.519%	14.39	123
98.731%	14.42	16
98.942%	14.45	4
99.154%	14.49	4
99.365%	14.52	4
99.577%	14.55	1
99.788%	14.58	1
100.000%	14.61	Reported



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RESULTS SUMMARY

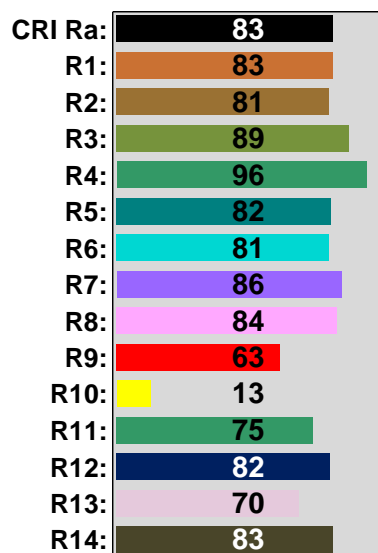
Radiometric Measurements

Peak Wl: 602.9 nm
FWHM: 138.4 nm
Centroid Wl: 584.0 nm

Photometric Measurements

Luminous Flux: 1390 lm
Luminous Efficacy: 96 lm/W
CCT: 3052 K

Color Rendering Index



Color Coordinates

Cx: 0.43183
Cy: 0.39976
u: 0.249128
v: 0.34594
u': 0.249128
v': 0.51891
Duv: -0.001014
Du'v': 0

Color Purity: - %
Dom Wl: 582.9 nm
Comp Wl: 482.5 nm
Gamut Area: 0.540954

Electrical Performance

Voltage: 120.160 V
Current: 0.121 A
Frequency: 59.968 Hz
Active Power (P): 14.414 W
Power Factor: 0.991 cos θ
THD(I): 7.050 %
THD(V): 0.11 %

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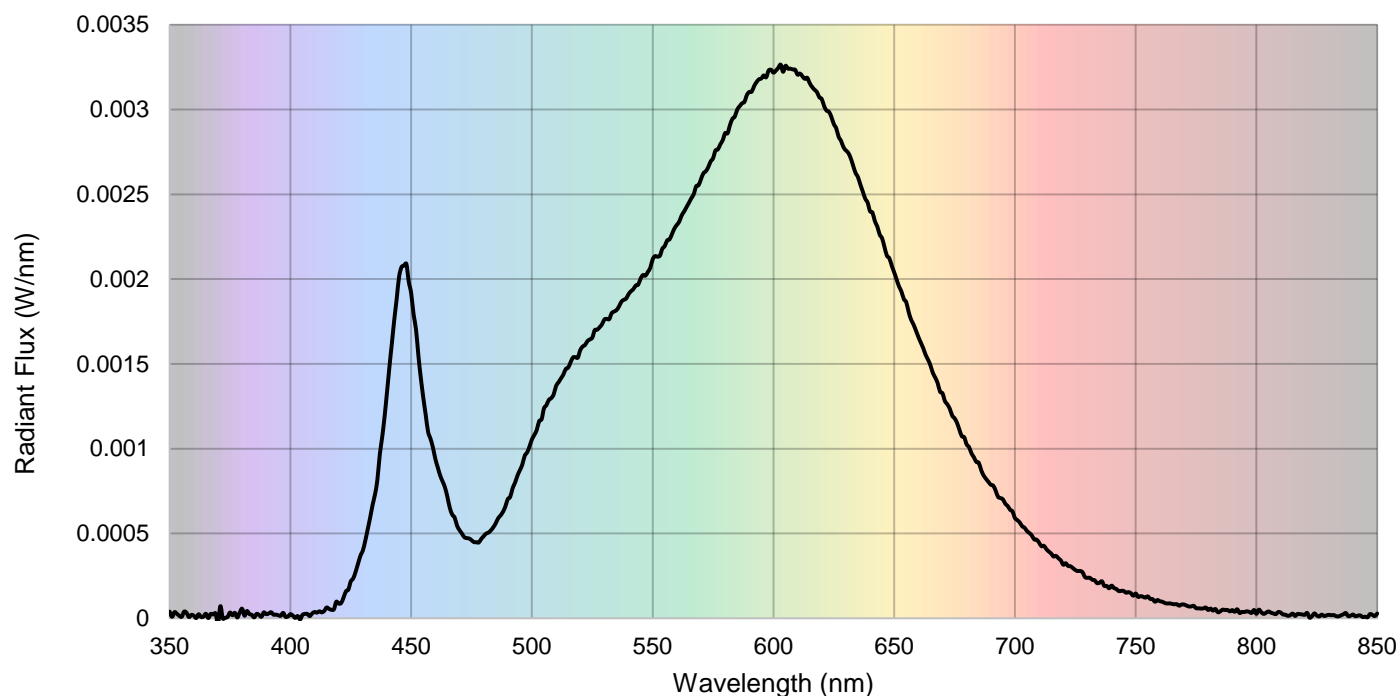
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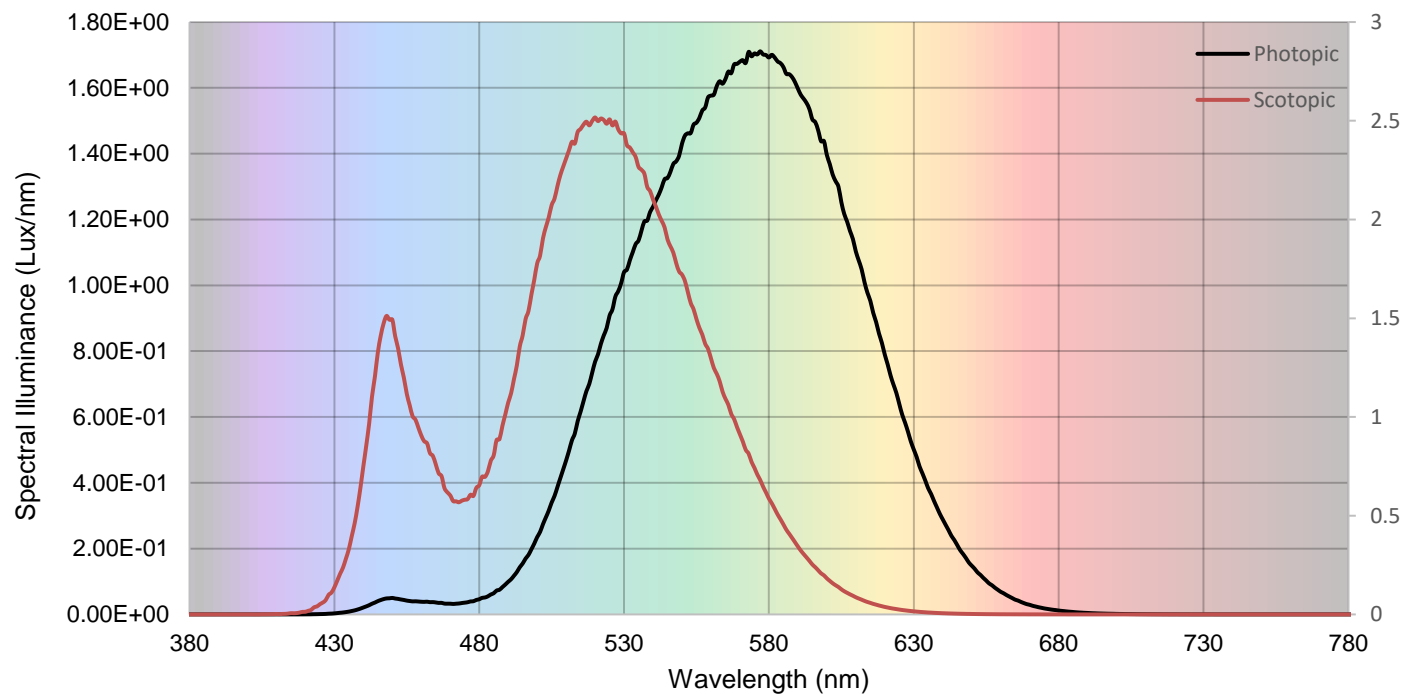
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SPECTRUM

Radiometric Spectrum



Photopic and Scotopic Spectrum



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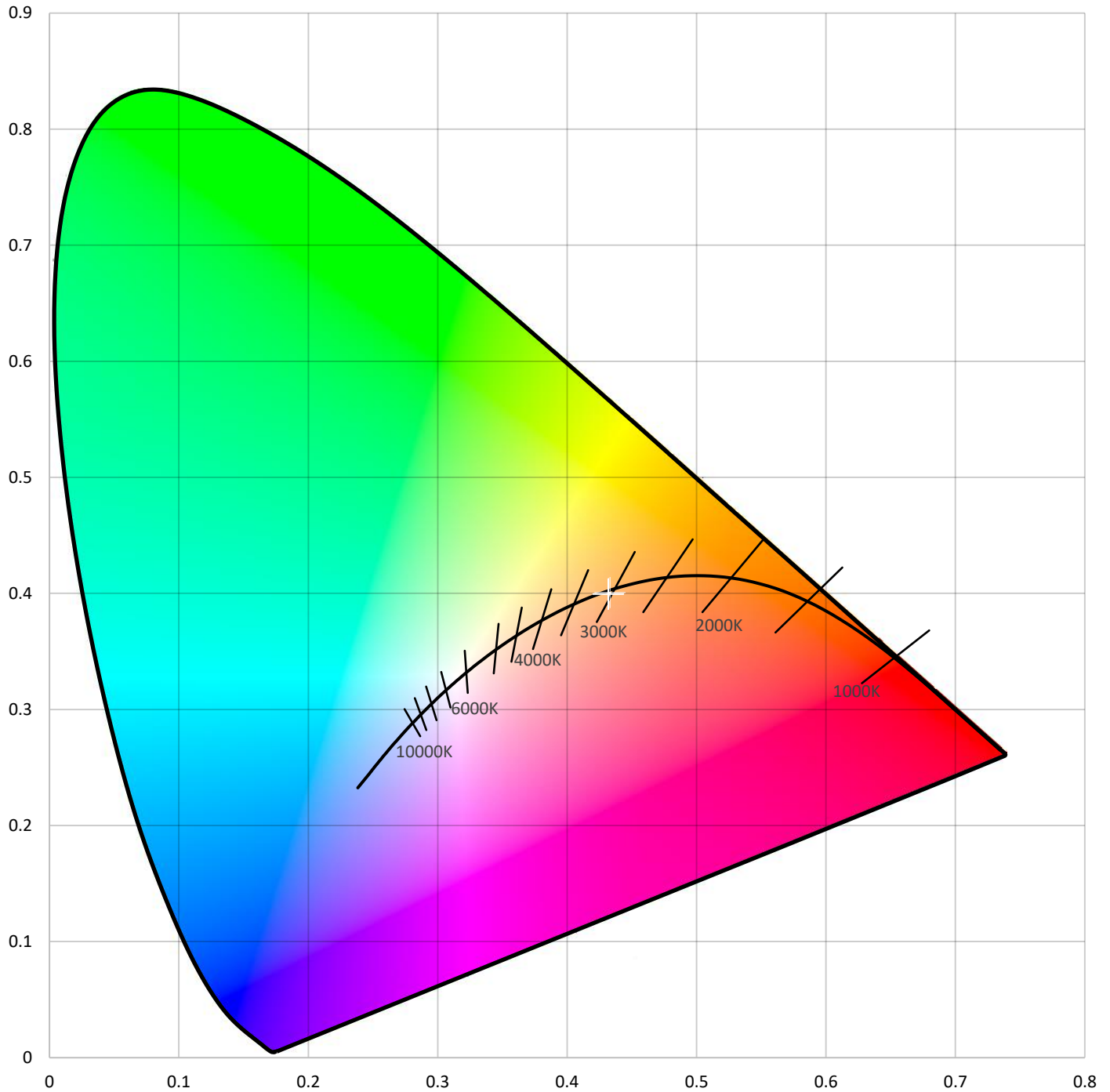
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CIE 1931



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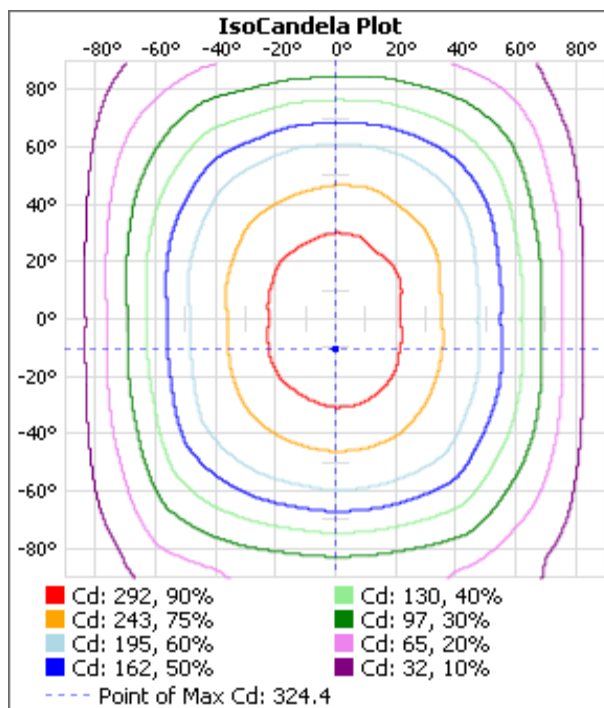
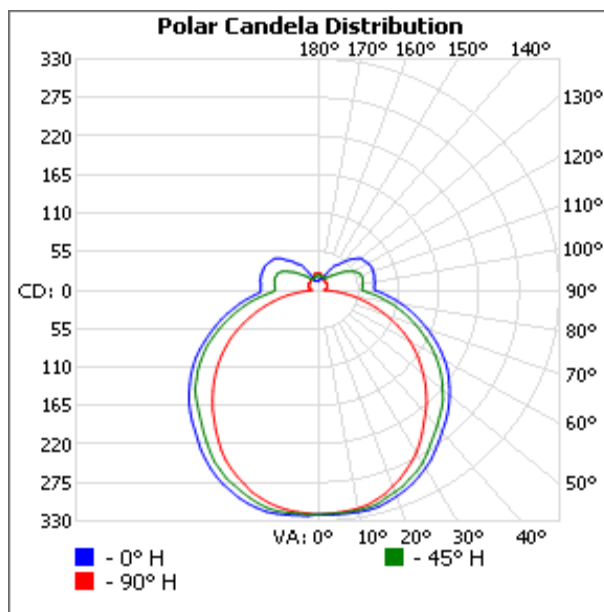
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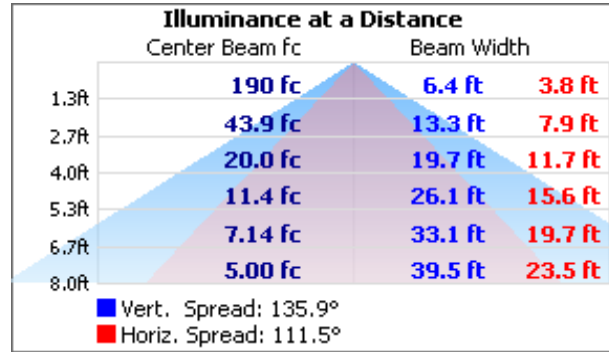
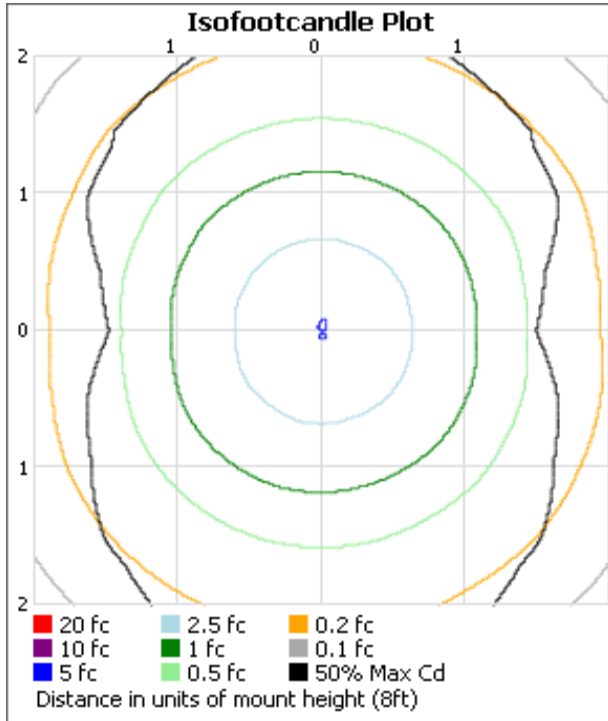
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CANDELA PLOTS



ILLUMINANCE PLOTS



ZONAL LUMEN SUMMARY

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	255.4	18.40%
0-40	420.9	30.30%
0-60	774.2	55.70%
60-90	340	24.50%
70-100	246.4	17.70%
90-120	168.1	12.10%
0-90	1114.2	80.10%
90-180	276.2	19.90%
0-180	1390.4	100.00%

Lumens Per Zone			Lumens Per Zone		
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	30.5	2.2%	90-100	57.7	4.1%
10-20	88.8	6.4%	100-110	57.7	4.2%
20-30	136	9.8%	110-120	52.7	3.8%
30-40	165.6	11.9%	120-130	42.7	3.1%
40-50	178.6	12.8%	130-140	29.5	2.1%
50-60	174.7	12.6%	140-150	17.8	1.3%
60-70	151.3	10.9%	150-160	10.2	0.7%
70-80	114.8	8.3%	160-170	5.9	0.4%
80-90	74	5.3%	170-180	1.9	0.1%

Coefficients Of Utilization - Zonal Cavity Method

RCC %:	80				70				50				30				10				0
RW %:	70	50	30	0	70	50	30	0	50	30	20	50	30	20	50	30	20	10	0		
RCR: 0	1.14	1.14	1.14	1.14	1.09	1.09	1.09	1.00	1.00	1.00	1.00	.92	.92	.92	.84	.84	.84	.80	.80		
1	1.02	.97	.92	.87	.97	.92	.88	.84	.85	.81	.78	.77	.74	.72	.71	.68	.66	.63	.63		
2	.92	.83	.76	.69	.88	.80	.73	.52	.73	.67	.63	.66	.62	.58	.61	.57	.54	.51	.51		
3	.84	.72	.64	.57	.79	.69	.61	.43	.63	.57	.52	.58	.53	.48	.53	.49	.45	.42	.42		
4	.76	.64	.55	.48	.72	.61	.53	.37	.56	.49	.43	.51	.45	.41	.47	.42	.38	.35	.35		
5	.70	.57	.47	.41	.66	.54	.46	.32	.50	.43	.37	.46	.40	.35	.42	.37	.33	.30	.30		
6	.64	.51	.42	.35	.61	.49	.40	.28	.45	.38	.32	.41	.35	.30	.38	.33	.29	.26	.26		
7	.59	.46	.37	.31	.57	.44	.36	.24	.41	.34	.28	.38	.31	.27	.35	.29	.25	.23	.23		
8	.55	.42	.33	.27	.53	.40	.32	.22	.37	.30	.25	.34	.28	.24	.32	.26	.23	.20	.20		
9	.52	.38	.30	.24	.49	.37	.29	.20	.34	.27	.22	.32	.26	.21	.29	.24	.20	.18	.18		
10	.48	.35	.27	.22	.46	.34	.26	.18	.31	.25	.20	.29	.23	.19	.27	.22	.18	.16	.16		

Effective Floor Cavity
Reflectance: 20%

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CANDELA TABLE

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360
0	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
5	322	321	320	320	319	319	319	321	321	321	322	323	323	323	322	320	320	318	318	317	319	319	320	321	322
10	322	322	321	319	318	316	316	318	319	320	321	323	324	322	321	318	317	314	314	317	318	320	322	322	322
15	320	318	316	316	312	312	310	312	314	316	318	320	322	320	318	315	312	310	306	308	312	314	316	319	320
20	314	310	308	307	303	302	298	302	306	309	311	313	316	314	310	306	300	299	294	297	303	307	307	313	314
25	305	302	299	297	292	289	284	288	294	298	301	303	306	303	301	296	289	286	281	283	292	296	297	305	305
30	293	291	287	285	278	274	268	272	278	283	286	290	293	293	288	283	274	269	264	266	277	282	284	292	293
35	279	274	270	268	260	256	248	253	260	268	271	274	278	276	271	265	256	250	243	247	259	266	268	279	279
40	264	259	256	253	244	237	229	234	243	251	255	258	261	259	255	247	239	231	223	228	242	251	254	264	264
45	250	246	242	239	227	220	209	216	225	235	240	243	246	244	241	232	221	213	203	209	224	236	241	250	250
50	235	230	225	222	210	201	188	196	210	218	223	226	230	227	222	219	202	193	182	189	207	219	228	234	235
55	218	216	208	205	190	180	167	175	193	199	204	208	212	208	205	200	182	172	160	168	188	202	210	218	218
60	200	198	190	185	170	160	145	153	173	179	184	188	193	190	185	180	161	151	138	147	168	181	192	200	200
65	179	177	167	162	148	136	120	128	149	156	162	166	170	167	162	158	138	125	112	123	146	160	170	178	179
70	158	156	146	141	125	112	95	105	127	135	140	145	149	145	140	135	114	103	88	99	123	139	149	158	158
75	137	135	125	120	103	89	72	82	104	113	119	124	128	124	120	113	93	79	64	77	102	117	128	137	137
80	117	116	105	98	82	68	50	59	83	92	99	103	108	104	99	93	71	57	42	56	80	96	107	117	117
85	97	94	85	79	60	45	26	38	62	71	80	84	88	85	79	72	50	36	20	34	59	76	87	97	97
90	78	77	71	60	44	26	8.7	21	43	58	69	75	78	76	70	59	43	24	8	20	41	58	70	77	78
95	77	76	72	62	45	25	8.9	22	41	59	70	77	78	77	71	59	45	25	10	22	42	58	70	76	77
100	78	78	73	62	46	26	11	24	43	59	71	78	81	77	71	60	46	27	11	24	44	59	70	76	78
105	80	78	73	63	47	26	13	24	44	61	72	79	80	78	71	61	46	26	12	24	44	60	72	78	80
110	80	79	74	62	46	24	13	22	45	61	72	78	80	78	72	60	46	25	14	21	44	61	73	78	80
115	81	78	73	60	42	22	14	20	44	60	71	78	80	77	71	59	42	22	13	19	44	60	71	78	81
120	79	77	69	54	36	21	14	19	41	59	70	76	78	74	66	54	37	20	15	17	40	59	70	76	79
125	75	72	62	47	31	20	15	20	37	58	68	74	76	69	60	46	30	19	15	18	35	57	68	74	75
130	71	65	53	38	27	21	15	21	33	51	62	70	71	63	50	39	26	19	16	18	31	50	64	72	71
135	62	55	42	30	23	21	16	19	29	44	54	62	61	53	40	31	23	19	15	19	26	43	55	67	62
140	52	43	32	27	21	20	16	18	25	39	47	51	53	44	32	27	20	19	16	18	24	37	47	54	52
145	44	34	26	22	21	19	15	17	25	33	39	41	45	33	26	22	19	19	17	19	23	31	38	45	44
150	35	25	21	19	21	19	17	17	24	28	31	34	37	23	20	18	19	19	18	19	24	27	31	36	35
155	25	19	19	20	21	19	18	18	23	26	26	29	25	17	16	17	20	19	19	20	23	25	26	31	25
160	18	18	20	19	21	21	20	19	23	26	24	25	17	15	16	18	21	21	21	21	22	26	26	27	18
165	16	17	18	21	23	21	22	21	22	24	25	23	15	15	16	19	21	22	22	22	22	24	26	26	16
170	16	16	17	21	23	23	23	23	23	23	24	19	14	15	16	20	23	23	24	23	23	23	23	22	16
175	14	15	17	21	24	25	25	23	23	21	21	15	13	13	17	20	24	24	25	24	23	21	21	18	14
180	13	14	17	21	23	24	24	23	20	18	17	13	12	12	17	21	23	24	25	24	21	19	16	14	13

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EQUIPMENT

Item	Description/use	Manufacturer	Model	Serial #	Calibration Due
Spectrometer	Spectrum	Orb Optronix	SP-200	2009063	7/16/2020
Power Supply	DUT power supply	Chroma	31015	QT3101500128	-
Type C Goniometer	Light Distribution	Orb Optronix		GONI003	at use
Power Meter	Luminous Intensity	Newport	2936-R	18963	-

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REVISION HISTORY

REVISION	DATE	APPROVED	DESCRIPTION OF REVISION
050	7/23/2019	ACM	① ORIGINAL

END OF REPORT