



## Product Test Report - Radiometric/Photometric Flux

Method: LM-79-08

### Test results reported for:

Slim Ring S

Product Description: Decorative LED Ring Pendant

### Issued Report:

LIGT007-040

### Original issue date:

Tuesday, July 23, 2019

### Revision Issue Date:

First Issue

### Prepared for:

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Test report prepared by:

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Aaron Miller  
Laboratory Manager  
Test & Measurement Services

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### SAMPLE DESCRIPTION

Lab sample identification: 4

Customer Identification: LIGT

Manufacturer: LightArt

Part number: -

Model Number: Slim Ring S

Description: Decorative LED Ring Pendant

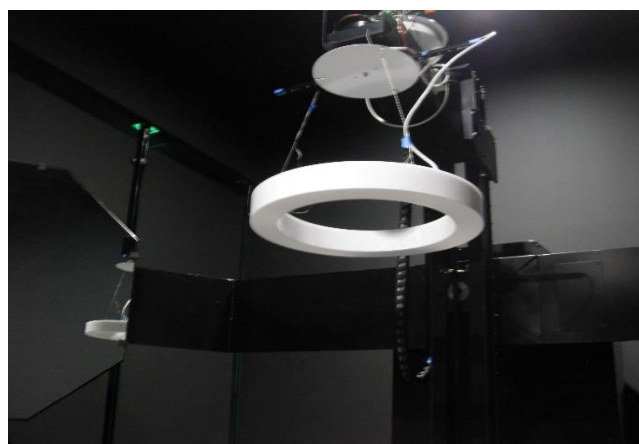
#### Manufacturer's ratings

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

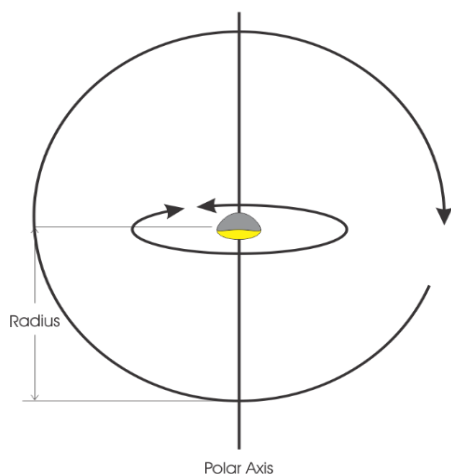
#### Sample Device as Received



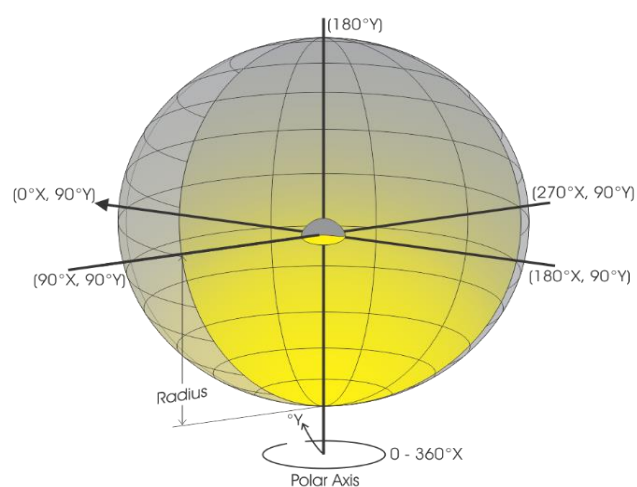
#### Sample Device Mounted to Test Apparatus



#### 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 called 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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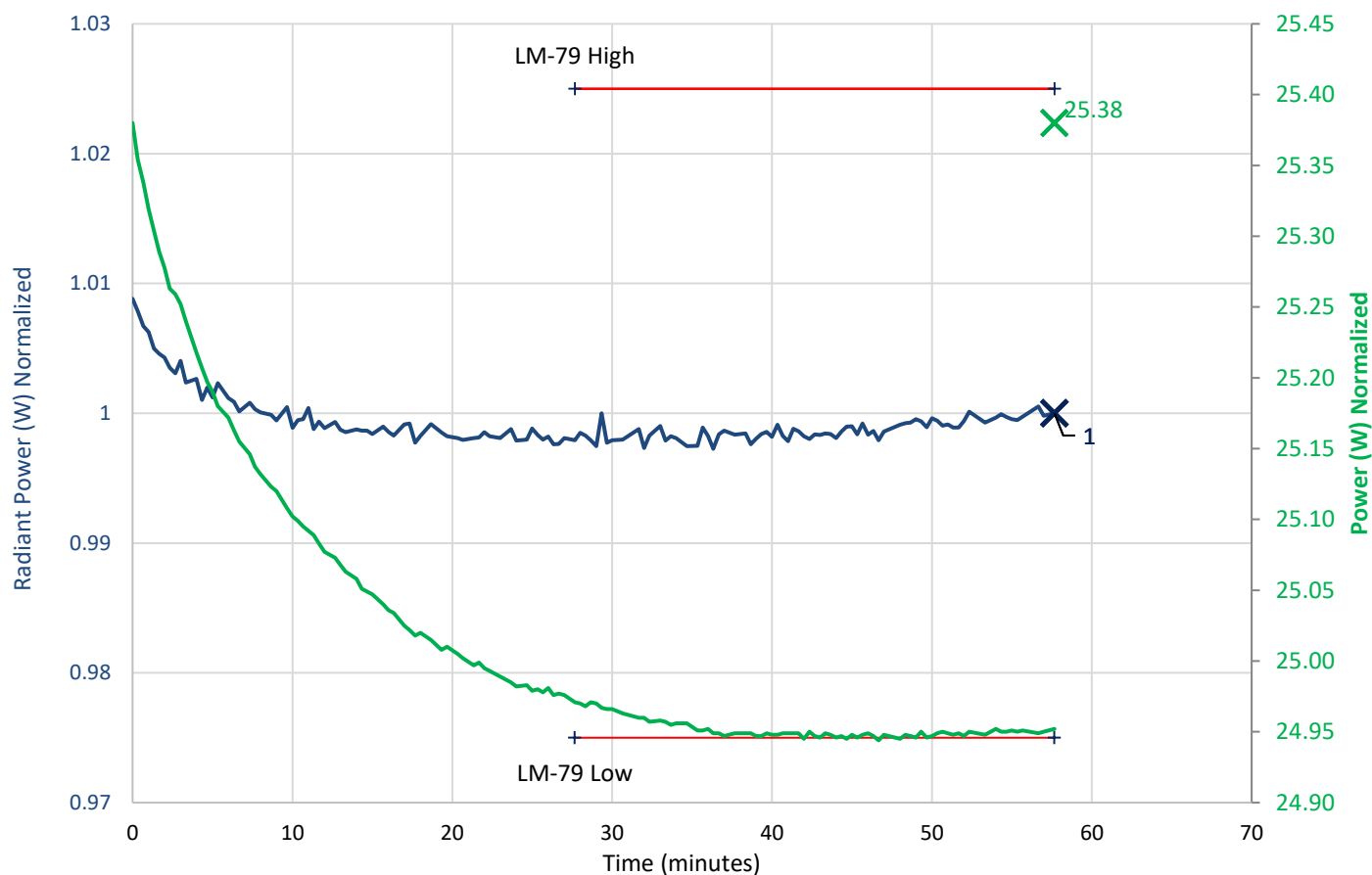
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### RADIOMETRIC STABILIZATION

Stabilization Description - A series of 140 measurements are recorded during the stabilization period. The final stabilized measurement, as defined by LM-79-08, is reported after 58 minutes of device runtime.

% of range	Radiant Power (W) Normalized	Measurements in Range
99.726%	1.00	52
99.841%	1.00	54
99.957%	1.00	16
100.073%	1.00	5
100.188%	1.00	4
100.304%	1.00	3
100.419%	1.00	3
100.535%	1.01	1
100.651%	1.01	1
100.766%	1.01	2
100.000%	1.00	Reported

% of range	Power (W) Normalized	Measurements in Range
98.109%	24.90	27
98.298%	24.95	70
98.487%	25.00	14
98.676%	25.04	11
98.865%	25.09	9
99.054%	25.14	5
99.243%	25.19	4
99.433%	25.24	5
99.622%	25.28	3
99.811%	25.33	3
100.000%	25.38	Reported



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### RESULTS SUMMARY

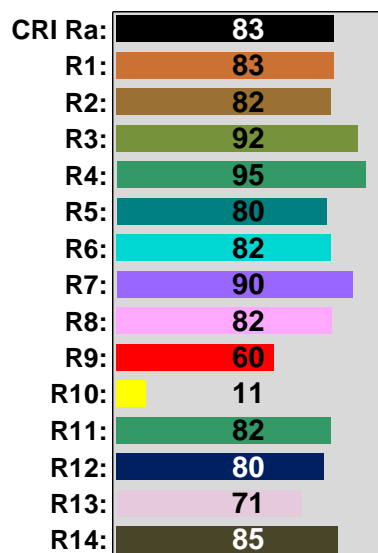
#### Radiometric Measurements

**Peak Wl:** 603.1 nm  
**FWHM:** 129.0 nm  
**Centroid Wl:** 583.5 nm

#### Photometric Measurements

**Luminous Flux:** 2560 lm  
**Luminous Efficacy:** 103 lm/W  
**CCT:** 3055 K

#### Color Rendering Index



#### Color Coordinates

**Cx:** 0.43097  
**Cy:** 0.398261  
**u:** 0.249216  
**v:** 0.345453  
**u':** 0.249216  
**v':** 0.51818  
**Duv:** -0.001499  
**Du'v':** 0

**Color Purity:** - %  
**Dom Wl:** 583.2 nm  
**Comp Wl:** 482.6 nm  
**Gamut Area:** 0.531472

#### Electrical Performance

**Voltage:** 120.210 V  
**Current:** 0.208 A  
**Frequency:** 59.962 Hz  
**Active Power (P):** 24.952 W  
**Power Factor:** 0.996 cos  $\theta$   
**THD(I):** 6.340 %  
**THD(V):** 0.06 %

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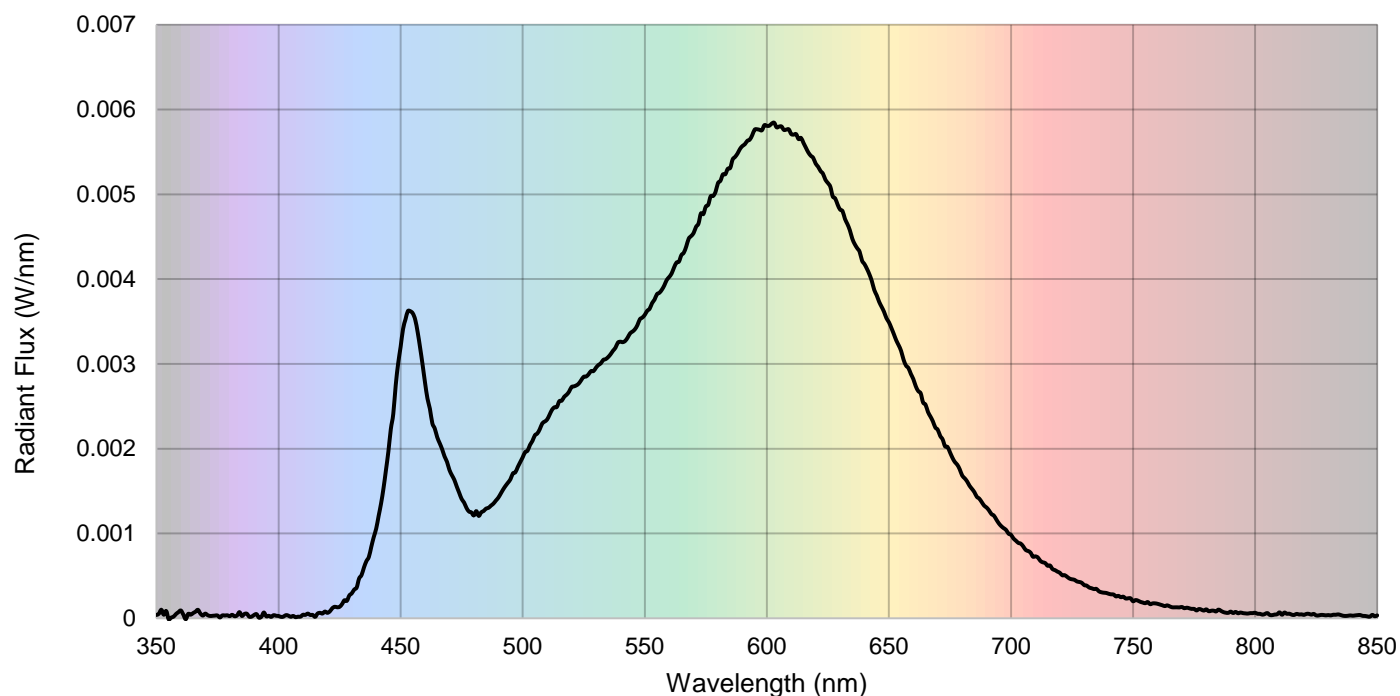
Report Number: LIGT007-040

Product Description: Decorative LED Ring Pendant

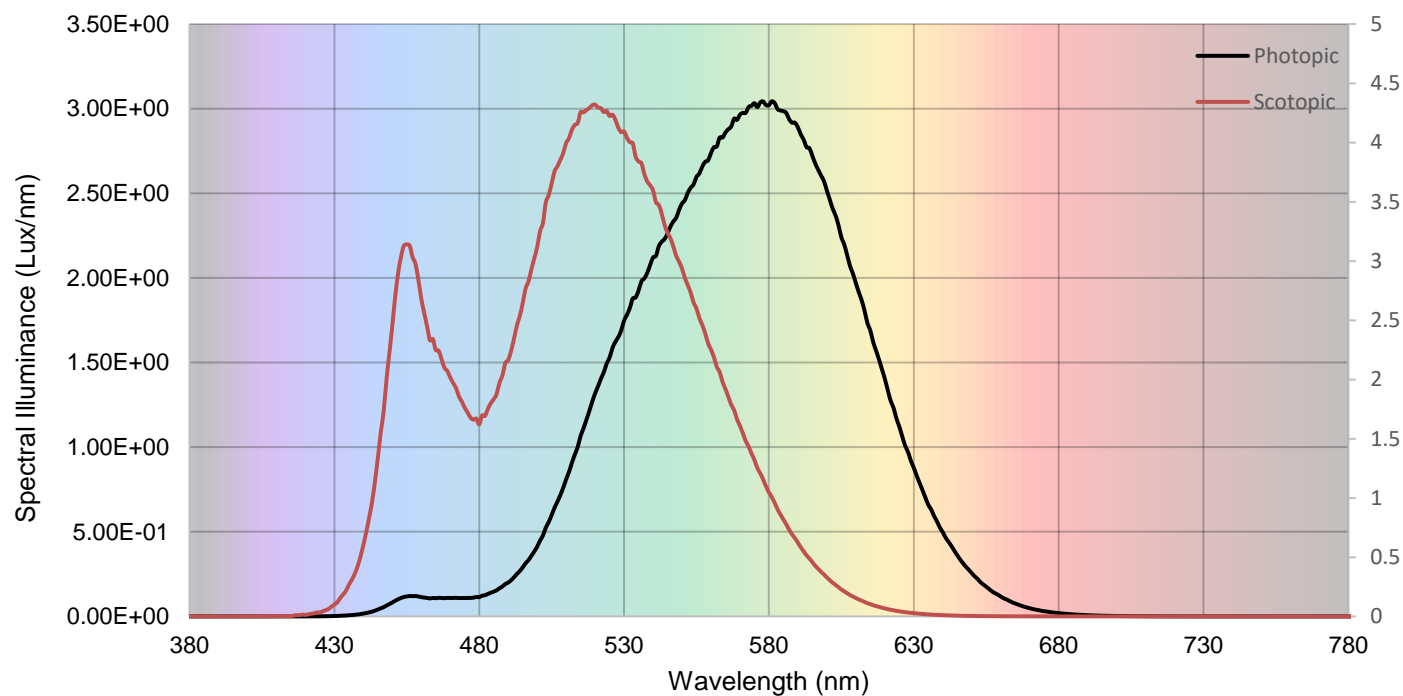
Release Date: 7/23/2019

### SPECTRUM

#### Radiometric Spectrum



#### Photopic and Scotopic Spectrum



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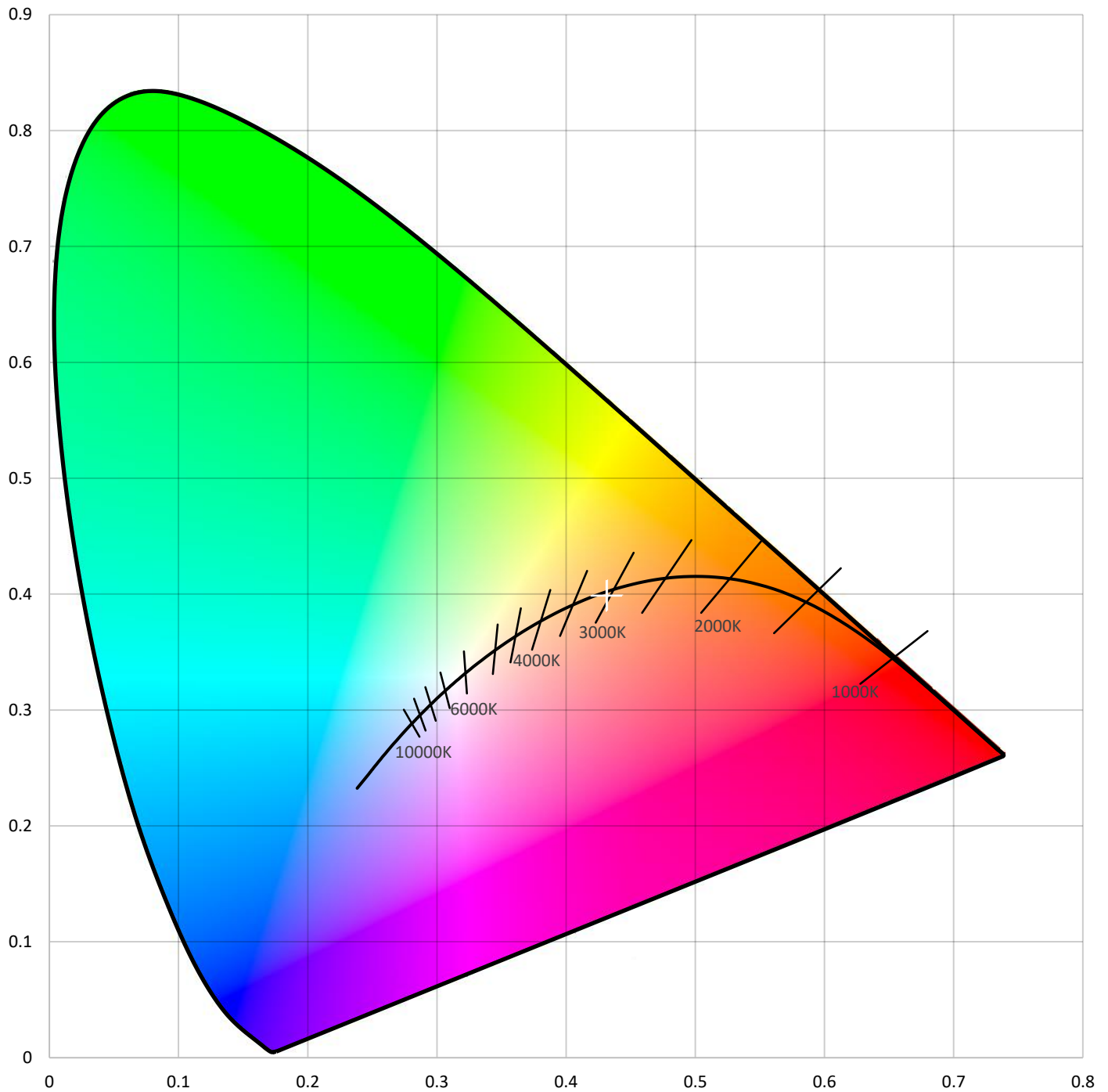
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CIE 1931



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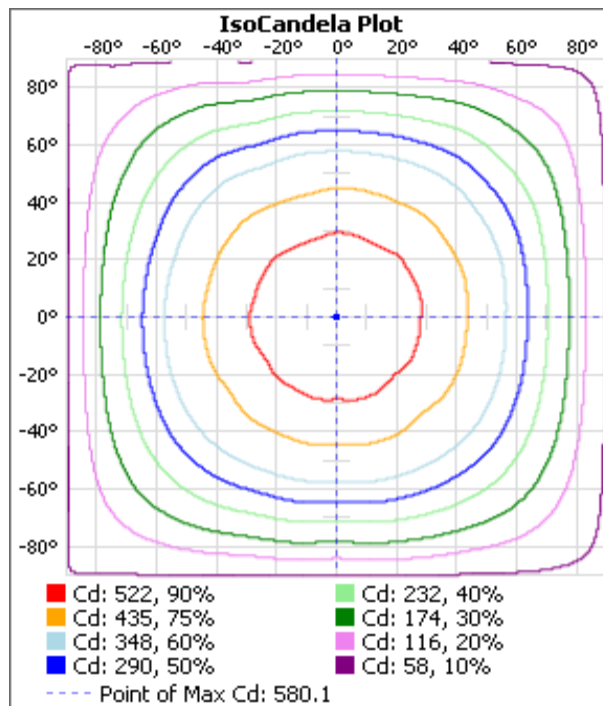
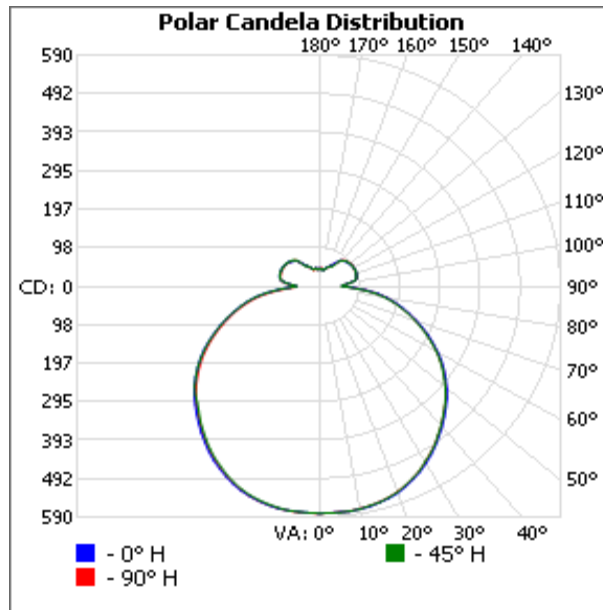
Manufacturer: Slim Ring S

Report Number: LIGT007-040

Product Description: Decorative LED Ring Pendant

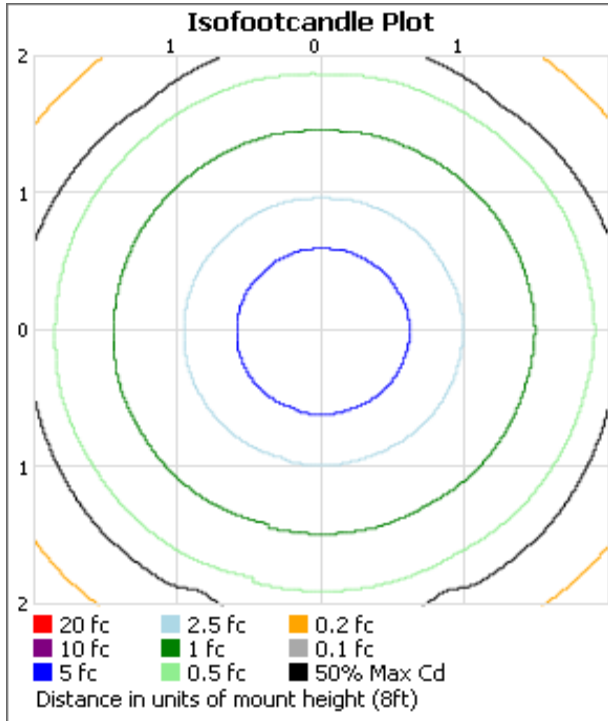
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### CANDELA PLOTS





## ILLUMINANCE PLOTS



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
1.3ft	343 fc	5.5 ft	5.4 ft
2.7ft	79.6 fc	11.4 ft	11.2 ft
4.0ft	36.3 fc	16.9 ft	16.5 ft
5.3ft	20.6 fc	22.4 ft	21.9 ft
6.7ft	12.9 fc	28.4 ft	27.7 ft
8.0ft	9.06 fc	33.9 ft	33.1 ft

■ Vert. Spread: 129.4°  
 ■ Horiz. Spread: 128.4°

## ZONAL LUMEN SUMMARY

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	464	18.10%
0-40	769.7	30.10%
0-60	1427	55.80%
60-90	607.7	23.70%
70-100	405.6	15.80%
90-120	279.5	10.90%
0-90	2034.8	79.50%
90-180	524.9	20.50%
0-180	2559.6	100.00%

Lumens Per Zone			Lumens Per Zone		
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	55.2	2.2%	90-100	79.6	3.1%
10-20	160.8	6.3%	100-110	101.8	4.0%
20-30	248	9.7%	110-120	98	3.8%
30-40	305.7	11.9%	120-130	87.1	3.4%
40-50	331.8	13.0%	130-140	70.5	2.8%
50-60	325.6	12.7%	140-150	45.6	1.8%
60-70	281.7	11.0%	150-160	25.2	1.0%
70-80	212.3	8.3%	160-170	12.7	0.5%
80-90	113.7	4.4%	170-180	4.3	0.2%

## Coefficients Of Utilization - Zonal Cavity Method

RCC %:	80				70				50				30				10				0
RW %:	70	50	30	0	70	50	30	0	70	50	30	0	70	50	30	0	70	50	30	0	0
RCR: 0	1.14	1.14	1.14	1.14	1.09	1.09	1.09	.80	1.00	1.00	1.00	.91	.91	.91	.83	.83	.83	.83	.83	.83	.80
1	1.02	.97	.92	.88	.97	.93	.88	.64	.85	.81	.78	.77	.75	.72	.70	.68	.66	.63	.63	.63	.63
2	.92	.83	.76	.70	.88	.80	.73	.52	.73	.67	.63	.66	.62	.58	.61	.57	.54	.51	.51	.51	.51
3	.84	.73	.64	.57	.79	.69	.62	.43	.63	.57	.52	.58	.53	.48	.53	.49	.45	.42	.42	.42	.42
4	.76	.64	.55	.48	.72	.61	.53	.37	.56	.49	.43	.51	.45	.41	.47	.42	.38	.35	.35	.35	.35
5	.70	.57	.47	.41	.66	.54	.46	.32	.50	.43	.37	.46	.40	.35	.42	.37	.33	.30	.30	.30	.30
6	.64	.51	.42	.35	.61	.49	.40	.28	.45	.38	.32	.41	.35	.30	.38	.33	.29	.26	.26	.26	.26
7	.59	.46	.37	.31	.56	.44	.36	.24	.41	.33	.28	.37	.31	.27	.34	.29	.25	.23	.23	.23	.23
8	.55	.42	.33	.27	.52	.40	.32	.22	.37	.30	.25	.34	.28	.24	.32	.26	.22	.20	.20	.20	.20
9	.51	.38	.30	.24	.49	.37	.29	.20	.34	.27	.22	.31	.26	.21	.29	.24	.20	.18	.18	.18	.18
10	.48	.35	.27	.22	.46	.34	.26	.18	.31	.25	.20	.29	.23	.19	.27	.22	.18	.16	.16	.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	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580
5	579	579	579	580	579	579	579	578	579	579	579	578	578	578	579	578	579	579	579	579	579	580	579	579	579
10	578	577	577	578	577	577	577	577	576	576	576	578	576	577	576	574	576	576	576	577	576	578	577	577	578
15	572	569	570	571	570	569	571	570	567	568	569	569	568	570	569	565	568	568	568	569	570	570	570	569	572
20	562	557	556	560	558	557	559	558	554	557	556	558	556	558	558	552	556	555	554	557	557	560	556	555	562
25	544	538	537	541	540	538	542	539	534	538	537	540	536	542	539	531	537	536	535	538	538	542	538	535	544
30	522	515	514	518	517	514	519	517	510	515	514	518	514	518	516	507	514	512	510	515	514	519	514	512	522
35	496	488	487	493	491	489	493	491	483	489	488	491	486	492	490	479	486	485	483	489	487	493	487	484	496
40	468	458	457	464	462	460	465	463	454	459	458	463	457	463	460	450	457	455	453	459	457	464	457	454	468
45	438	429	429	434	432	430	435	433	425	431	429	433	427	434	431	420	427	425	424	430	429	434	433	425	438
50	407	397	396	403	400	399	405	402	397	399	397	402	397	402	400	396	395	393	391	398	396	404	403	393	407
55	372	370	361	368	366	363	371	368	365	364	362	367	361	369	365	361	361	358	356	363	361	368	369	357	372
60	335	334	322	331	328	325	332	330	328	326	324	329	324	331	326	322	322	318	317	324	322	331	332	318	335
65	294	291	280	289	286	283	291	288	286	285	281	288	281	289	286	280	280	277	275	283	281	288	289	276	294
70	252	249	238	246	243	242	249	246	245	242	239	245	239	247	244	239	237	234	232	241	238	247	247	234	252
75	211	208	197	205	202	200	207	205	203	202	199	205	198	207	202	197	196	194	191	199	197	204	204	192	211
80	168	166	153	164	160	159	168	163	162	160	157	163	157	164	160	155	154	150	148	157	154	163	164	149	168
85	115	112	96	108	104	101	114	109	106	105	100	111	100	112	106	98	96	92	88	100	96	108	109	89	115
90	58	57	55	55	55	54	58	56	55	55	55	55	55	58	55	54	54	55	56	54	54	55	56	56	58
95	68	69	75	71	72	74	69	70	72	73	75	71	76	71	73	76	76	77	78	74	74	70	70	77	68
100	90	90	92	91	91	92	90	91	92	93	94	93	95	93	94	94	91	95	94	93	93	91	91	92	90
105	95	95	95	95	94	95	96	97	97	97	98	99	99	99	99	99	97	98	98	96	96	96	95	96	95
110	97	96	96	97	97	96	97	98	99	99	100	100	101	101	100	100	100	99	99	99	98	98	96	97	97
115	98	97	97	98	97	98	97	98	99	100	101	101	101	101	101	101	100	100	99	99	98	98	97	97	98
120	97	98	96	97	96	98	97	98	99	100	100	100	101	101	101	100	99	99	98	98	98	97	97	97	97
125	96	95	95	96	96	96	97	97	97	98	98	98	98	99	99	99	99	97	97	97	97	96	96	95	96
130	93	94	93	94	94	94	95	94	95	97	95	96	96	97	97	95	96	95	95	95	95	95	94	94	93
135	90	89	90	92	91	91	92	91	90	91	91	90	90	92	94	93	93	92	92	93	92	93	91	88	90
140	86	85	84	86	86	85	87	85	85	87	83	85	85	86	86	87	89	86	85	86	86	87	84	84	86
145	74	73	71	67	68	69	71	71	69	74	69	72	70	73	70	68	74	70	69	72	71	72	68	71	74
150	63	62	61	60	58	60	61	61	60	60	61	62	61	63	62	60	63	62	60	61	60	58	62	62	63
155	55	55	55	55	51	52	54	53	51	54	55	55	54	56	55	55	54	55	53	53	51	54	54	54	55
160	49	47	47	48	46	46	48	46	47	49	49	49	48	49	49	48	49	48	46	47	47	47	48	48	49
165	43	43	43	43	44	44	43	44	44	45	45	45	46	45	45	45	44	44	44	44	44	43	43	42	43
170	43	43	43	43	44	45	44	44	46	44	45	46	45	44	44	45	44	44	44	43	44	43	43	42	43
175	47	46	46	46	45	45	46	47	46	46	46	45	44	46	46	45	46	47	45	46	45	46	45	45	47
180	43	42	43	43	43	42	43	43	43	43	43	42	42	43	43	42	44	44	43	44	43	43	42	43	43

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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
040	7/23/2019	ACM	① ORIGINAL

END OF REPORT