

# CAST LIGHTING LLC

## TEST REPORT

**SCOPE OF WORK**

LED Performance Testing

**MODEL NUMBER**

CPWP5

**PROJECT NUMBER**

G105195534

**REPORT NUMBER**

105195534CRT-001

**ISSUE DATE**

9/21/2022

**REVISED DATE**

None

**TEST DATES**

9/13/2022 through 9/21/2022

**DOCUMENT CONTROL NUMBER**

RTTDS-R-AMER-Test-3407

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**REPORT NUMBER**

105195534CRT-001

**MODEL NUMBER(s)**

CPWP5

**REPORT RENDERED TO:**

CAST LIGHTING LLC  
1120-A GOFFLE RD  
HAWTHORNE, NJ 07506

**STATEMENT OF LIMITATION**

NVLAP Lab Code 100402-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

**AUTHORIZATION**

The testing performed was authorized by signed quote number Qu-01296098-1.

**TEST STANDARDS**

ANSI/IES LM-79-19: Optical and Electrical Measurements of Solid State Lighting Products

ANSI NEMA ANSLG C78.377: 2017: Specifications for the Chromaticity of Solid State Lighting (SSL) Products

In Charge of Testing:



Melanie Brittain  
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Lighting Division

Reviewer:



Jeff Davis  
Technical Lead  
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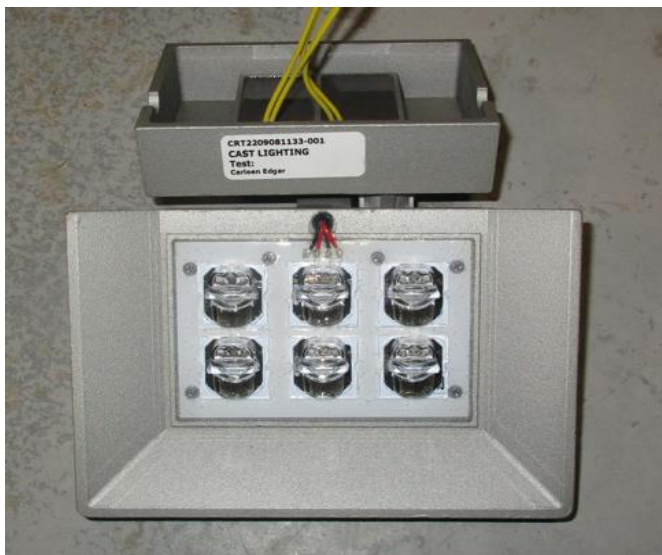
## SAMPLE INFORMATION

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### ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	CRT2209081133-001	CPWP5	Perimeter Wall Pack	Production	9/8/2022

### SAMPLE PHOTOS - TESTED CONFIGURATIONS



**SUMMARY**

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**PRODUCT INFORMATION AND SUMMARY OF DATA**

Product Model No.:	CPWP5
Product Description:	Perimeter Wall Pack
LED Model No.:	CREE XPG3
Driver Model No.:	(D) XCPCLD3
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	2705.1	2707.5
Input Power (W) @ 17 (Vdc)	26.05	26.10
Luminous Efficacy (lm/W)	103.9	103.7
Input Power Factor ( ) @ 17 (Vdc)	---	---

Criteria	Results
Input ATHD (%) @ 17 (Vdc)	---
Correlated Color Temperature (K)	4460
Color Rendering Index - Ra ( )	71.1
Color Rendering Index - R9 ( )	-23.8
Duv ( )	0.0006
Chromaticity Coordinate (x)	0.362
Chromaticity Coordinate (y)	0.366
Chromaticity Coordinate (u')	0.218
Chromaticity Coordinate (v')	0.494

**TEST METHODS**

**SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS**

No seasoning was performed at the lab in accordance with ANSI/IES LM-79-19

Note: Prior to shipping the sample for testing, the sample was operated for 336 hours at 24.11VDC by the customer.

**INTEGRATING SPHERE TESTING**

A spectroradiometer and integrating sphere were used to measure the spectral power distribution for photometric and colorimetric data of the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature and relative humidity was measured at 25°C ± 1.2°C and 10-65% respectively at a position inside of the sphere within 1.5m and at equal height of the EUT. Stabilization procedures to LM-79-19 were followed. The EUT was mounted in a 4π configuration.

**TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING**

A Type C Mirror Goniophotometer system was used to measure the luminous intensity (candela) at each angle of distribution for the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature and relative humidity was measured at 25°C ± 1.2°C and 10-65% respectively at a position within 1.5m and at equal height of the EUT. Stabilization procedures to LM-79-19 were followed. The test distance was ≥ 5x the longest luminous dimension of the EUT.

## TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

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### PHOTOMETRIC AND ELECTRICAL MEASUREMENTS

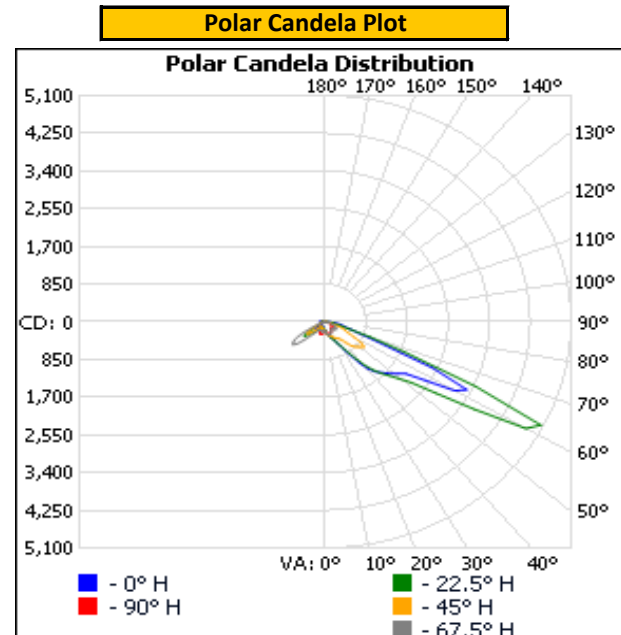
Base Orientation	Input Voltage (Vdc)	Input Current (mA)	Input Power (W)	Input Power Factor ( )
Horizontal	17.06	1526.6	26.05	---

Light Output (lm)	Efficacy (lm/W)
2705.1	103.9

### LUMINOUS INTENSITY SUMMARY (candela)

Angle (°)	0	22.5	45	67.5	90
0	214	214	214	214	214
5	263	261	261	247	224
10	298	302	305	297	257
15	329	333	320	307	287
20	376	384	338	296	293
25	462	474	377	283	269
30	625	614	421	243	230
35	945	869	452	210	196
40	1375	1281	532	207	190
45	1612	1635	758	223	220
50	1814	1987	871	261	202
55	2036	2803	981	265	152
60	3099	4801	698	247	125
65	2463	3440	450	211	113
70	728	984	280	161	98
75	413	329	108	66	73
80	322	175	59	37	42
85	148	88	25	18	13
90	20	5	1	1	0
95	0	0	0	0	0
100	0	0	0	0	0
105	0	0	0	0	0
110	0	0	0	0	0
115	0	0	0	0	0
120	0	0	0	0	0
125	0	0	0	0	0
130	0	0	0	0	0
135	0	0	0	0	0
140	0	0	0	0	0
145	0	0	0	0	0
150	0	0	0	0	0
155	0	0	0	0	0
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0

Entire luminous intensity matrix found in .IES file



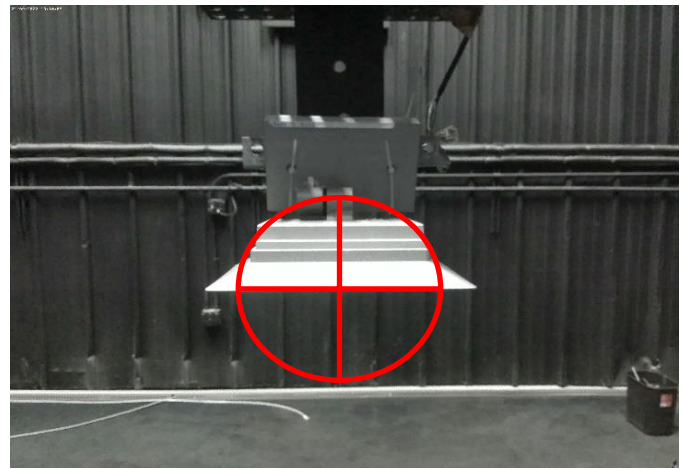
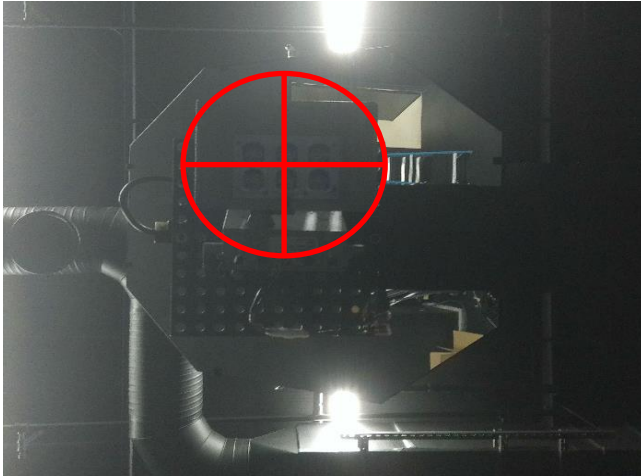
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**ORIENTATION AND ALIGNMENT OF EUT**

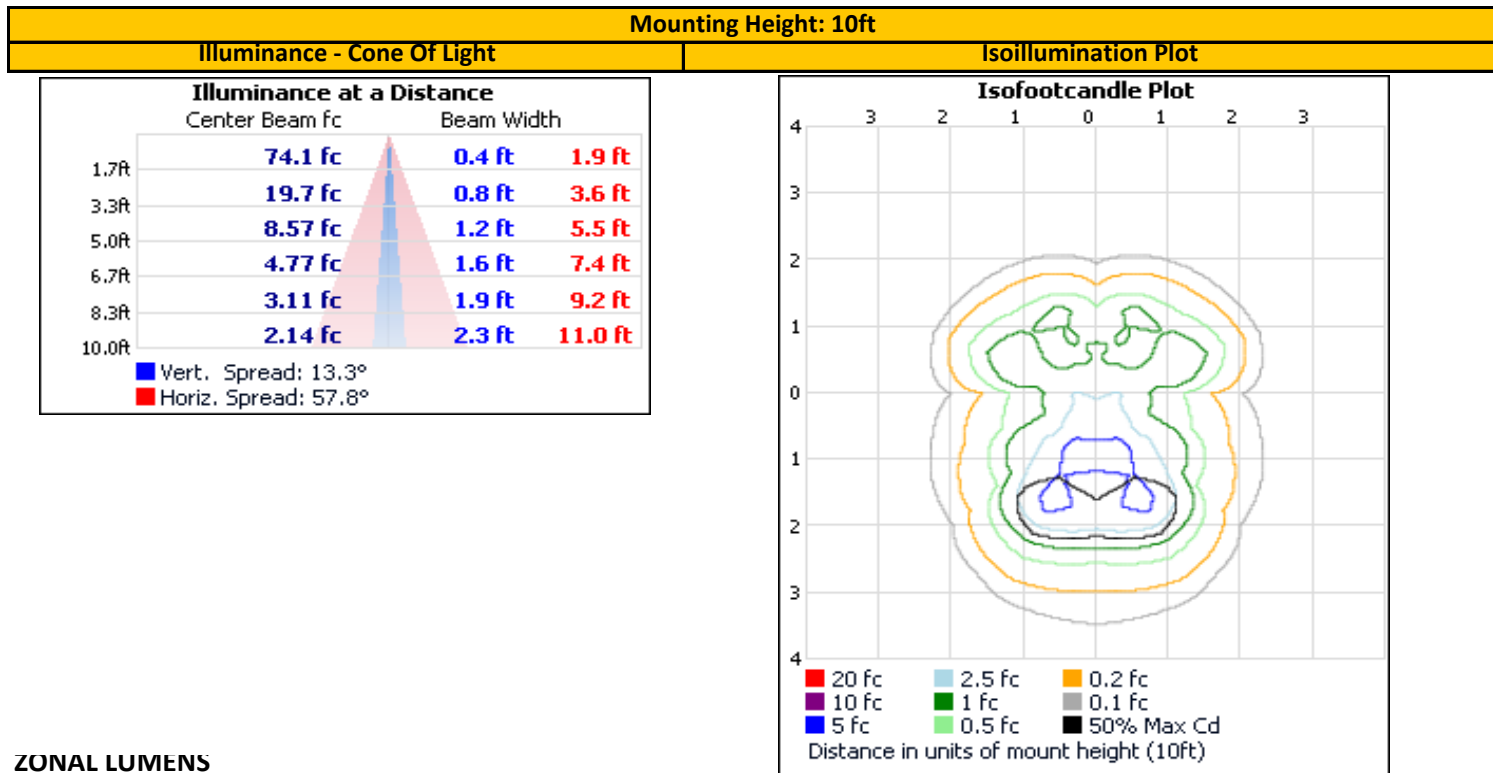
Luminous Opening		
Length (ft)	Width (ft)	Height (ft)
0.36	0.54	0.00
0°-180° H	90°-270° H	0°-180° V

Test Distance (ft)
29.6

**PHOTOMETRIC CENTER OF EUT**



**ILLUMINANCE SUMMARY**



**ZONAL LUMENS**

Zonal Lumen Summary					
Zone	Lumens	Luminaire			
0-30	222.8	8.2%			
0-40	454.0	16.8%			
0-60	1,724.0	63.7%			
60-90	954.1	35.3%			
70-100	237.3	8.8%			
90-120	26.6	1.0%			
0-90	2,678.1	99.0%			
90-180	27.0	1.0%			
0-180	2,705.1	100.0%			
Zone	Lumens	Total	Zone	Lumens	Total
0-10	21.9	0.8%	90-100	18.5	0.7%
10-20	71.7	2.7%	100-110	7.1	0.3%
20-30	129.1	4.8%	110-120	1.1	0.0%
30-40	231.2	8.5%	120-130	0.2	0.0%
40-50	461.1	17.0%	130-140	0.1	0.0%
50-60	808.9	29.9%	140-150	0.1	0.0%
60-70	735.3	27.2%	150-160	0.0	0.0%
70-80	162.8	6.0%	160-170	0.0	0.0%
80-90	56.0	2.1%	170-180	0.0	0.0%

**INTEGRATING SPHERE TESTING**

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**PHOTOMETRIC, RADIOMETRIC, COLORIMETRIC, AND ELECTRICAL MEASUREMENTS**

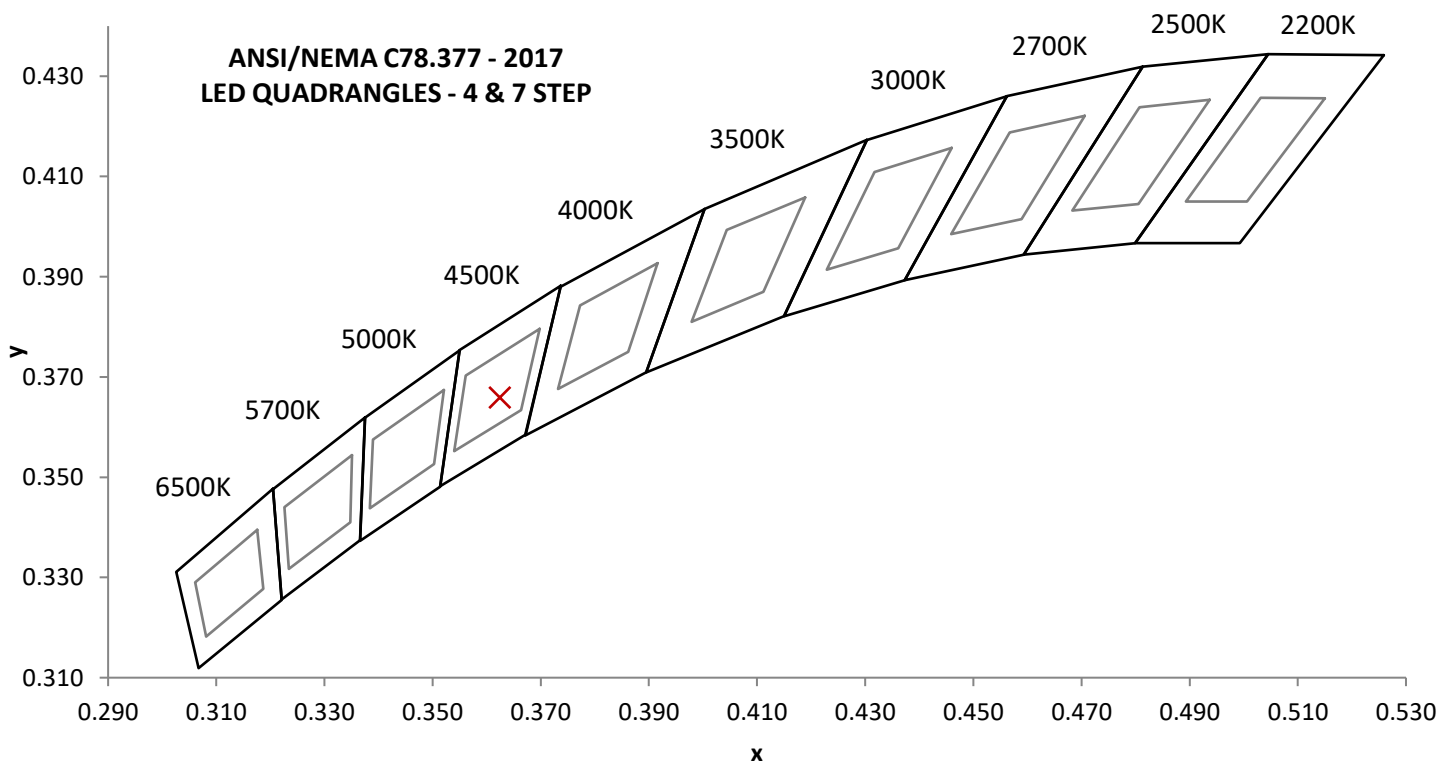
Base Orientation
Horizontal

Input Voltage (Vdc)	Input Current (mA)	Input Power (W)	Input Power Factor ( )	Input ATHD (%)
17.03	1534.4	26.10	---	---

**Measured at 17.03(Vdc)**

Light Output (lm)	Efficacy (lm/W)	CCT (K)	CRI - Ra ( )	CRI - R9 ( )
2707.5	103.7	4460	71.1	-23.8

Duv ( )	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
0.0006	0.362	0.366	0.218	0.494

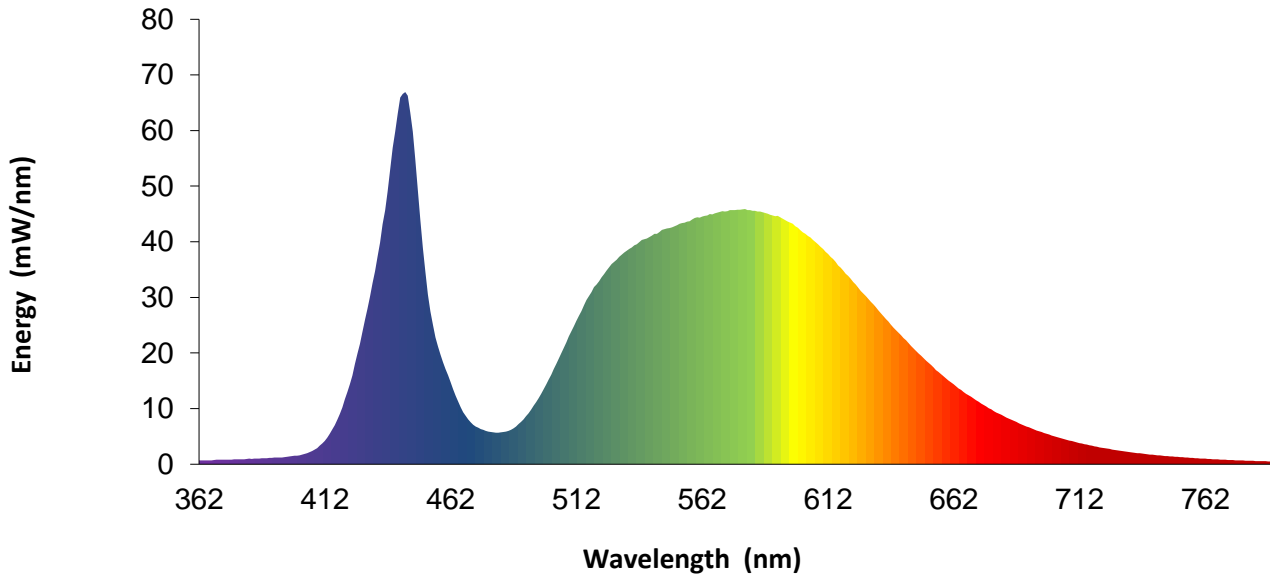




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**SPECTRAL POWER DISTRIBUTION**

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.7	460	6.8	570	45.6	680	6.6
355	0.7	465	5.9	575	45.2	685	5.8
360	0.8	470	5.7	580	44.6	690	5.1
365	0.9	475	6.5	585	43.4	695	4.4
370	1.0	480	8.7	590	41.7	700	3.8
375	1.1	485	11.9	595	39.9	705	3.3
380	1.2	490	16.1	600	37.8	710	2.9
385	1.3	495	20.9	605	35.4	715	2.5
390	1.6	500	25.8	610	32.8	720	2.2
395	2.4	505	30.2	615	30.3	725	1.9
400	4.2	510	33.6	620	27.6	730	1.7
405	8.0	515	36.4	625	25.1	735	1.5
410	14.4	520	38.4	630	22.7	740	1.3
415	23.8	525	39.9	635	20.4	745	1.1
420	34.7	530	41.1	640	18.2	750	1.0
425	49.1	535	42.3	645	16.2	755	0.9
430	65.9	540	43.0	650	14.4	760	0.8
435	59.8	545	43.7	655	12.7	765	0.7
440	34.5	550	44.6	660	11.2	770	0.6
445	21.2	555	45.1	665	9.9	775	0.5
450	14.8	560	45.5	670	8.7	780	0.5
455	9.4	565	45.8	675	7.6	---	---



Portrayed color in graphic is estimated by wavelength (nm) and may not be exact - it is a visual representation only

**EQUIPMENT LIST**

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#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Sorenson DC Power Supply	XFR 150-8	---	VBU	VBU
2	Traceable Hygrothermometer	200110913	L206	2/21/2022	2/21/2023
3	Yokogawa Power Analyzer	WT1600	E462	5/21/2022	5/21/2023
4	Fluke Thermometer	53 II	D588	6/13/2022	6/13/2023
5	3M Integrating Sphere Spectrometer System	CDS 2600	L231	9/13/2022	12/13/2022
6	LSI High Speed Mirror Goniophotometer	6440	---	6/30/2022	9/30/2022
7	Elgar AC Power Supply	CW1251	---	VBU	VBU
8	Yokogawa Power Analyzer	WT210	307-E464	6/21/2022	6/21/2023
9	Traceable Hygrothermometer	4800	L204	2/21/2022	2/21/2023
10	Sorenson DC Power Supply	XG 150-10	---	VBU	VBU
11	Omega Thermometer	DPi8-C24	M263	3/1/2022	3/1/2023
12	Bosch Distance Laser	Pro GLM 20	L210	3/21/2022	3/15/2023
13	Tape Measure	Crescent	---	9/21/2021	9/21/2024

The AC power supplies used for testing have a crest factor capable of 0-3.5

**REVISION HISTORY**

#	Revision Date	Updated By	Reviewed By	Description of Change
---	None	---	---	---
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