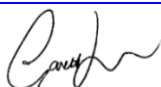


<b>Report Number</b>	GNC-36022
<b>Customer</b>	Encapsulite International Ltd
<b>Contact</b>	Jordan Waumsley
<b>Product Type</b>	LED Tube
<b>Test Purpose</b>	Goniometric (Type C) Intensity Scan - IES/LDT Files & Report - Scan Increments 15 degrees Azimuth by 2.5 degrees inclination
<b>Quote / PO Reference</b>	Q-LUX-302609 / PO ( 17038 )
<b>Works Order Number</b>	WO-36022
<b>Test Standards</b>	LM-79-19; (BS) EN 13032-4:2015 + A1 2019; CIE S025:2015
<b>Testing Conducted at</b>	LUX-TSI Limited Unit 1B Pencoe Technology Park, Pencoe, Bridgend, CF35 5AQ
<b>Tested by</b>	Charles Read
<b>Date of Receipt of Test Item</b>	11/11/2025
<b>Date(s) of Test</b>	17/11/2025
<b>Analysed by</b>	Gareth Jones
<b>Number of products tested</b>	1

Address: LUX-TSI Ltd.,  
Pencoe Technology Park,  
Pencoe, Bridgend,  
CF35 5AQ, UK  
Telephone: +44 (0) 1656 864618  
Authorised by: G. Jones  
Email: [CustomerService@lux-tsi.com](mailto:CustomerService@lux-tsi.com)  
Signed:




Date: 18/11/2025

MT50 & MT70 LED Range

### Disclaimers

This report is for the exclusive use of LUX-TSI's Customer and is provided pursuant to the agreement between LUX-TSI and its Customer. LUX-TSI's responsibility and reliability are limited to the Terms and Conditions of the agreement. LUX-TSI assumes no liability to any other party, other than the Customer in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Customer is authorised to permit copying or distribution of this report and then only in its entirety. Any use of the LUX-TSI name or one of its marks for the sale or advertisement of the tested material, product or service must be approved in writing by LUX-TSI.

The observations and test results in this report are relevant only to the sample tested. The sample was supplied by the client and not selected by LUX-TSI. Opinions and interpretations are outside the scope of this report. Data supplied in this report, is given in good faith, and based on the information provided by the Customer. This report does not remove the requirement for the Customer to obtain further independent advice and in particular to instruct a notified or competent body or person to carry out further evaluation work and/or testing. Accordingly, no warranty is given, nor is any term or condition to be implied, that the product, which is the subject of this report, complies with the requirements of any EU directives or UK statutory instruments.

TRCL\_GC\_R19\_4

---

### Nomenclature

Lamp Orientation described below relates to the position in which a lamp is designed to operate for maximum performance and safety, these include:

BD - Base Down (bulb is vertically positioned with the metal base at the bottom, glass up)

BU - Base Up (bulb is vertically positioned with the metal base at the top, glass hanging down)

---

### Test Conditions

Measurements were made with an ambient temperature of 25°C +/- 1°C. Measurements were taken only after sufficient time for thermal stabilisation has been allowed. Thermal stabilisation according to LM-79-19 was achieved before measurements are measured and reported.

---

### Calibrations

The far field Type C Goniophotometer is calibrated using an intensity lamp calibrated by a NVLAP accredited calibration laboratory.

---

### Test Equipment

UL LSI Custom Far-Field Type C Moving Mirror Goniophotometer measures intensity as a function of angle. On-axis spectral measurements taken using Gooch and Housego OL770 spectrometer.

---

### Data Formats

IES (15 deg azimuth and 2.5 deg inclination) and LDT (15 deg C planes and 2.5 deg gamma angles)

Spectral Data file from which the calculation of chromaticity and CRI etc. have been performed and the derived results from the LightMtrX software are provided as a text file format.

All photometric data for LED products will be provided in ABSOLUTE photometric format and all non-LED data will be in relative photometric format with lamp lumens measured separately, where possible, for LOR estimation.

<b>Product Name</b>	MT50 & MT70 LED Range
<b>Part/Serial Number</b>	MT70 LED 6 HO
<b>Type of Product</b>	LED Tube
<b>Lamp Base Type</b>	Luminaire

Enter Driver Here

<b>Test Time</b>	11 mins
<b>Operating Orientation</b>	Horizontal
<b>Test Orientation</b>	Horizontal
<b>Ambient Temperature</b>	25.7°C
<b>Manufacturer</b>	Encapsulite International Ltd
<b>Date of Manufacture</b>	N/A
<b>Thermal Management</b>	Passive
<b>Dimmable</b>	No
<b>Pre-Burning Time</b>	0 hours
<b>Stabilisation Time</b>	20 minutes
<b>Humidity</b>	33.5% RH
<b>Averaging Applied</b>	NONE

Driver Details		
Manufacturer		Tridonic
Model		28005034
Part/Serial #		N/A
Driver Type		Internal Driver
Output	Voltage	N/A
	Current	325mA A
	Power	N/A

Photometric Measurements	
Luminous Flux (lm)	7950 lm
Luminous Efficacy (lm/W)	165 lm/W

Dimension	Sample	Luminous Opening
Diameter/Width	70 mm	70 mm
Length	1770 mm	1685 mm
Height/Depth	70 mm	70 mm

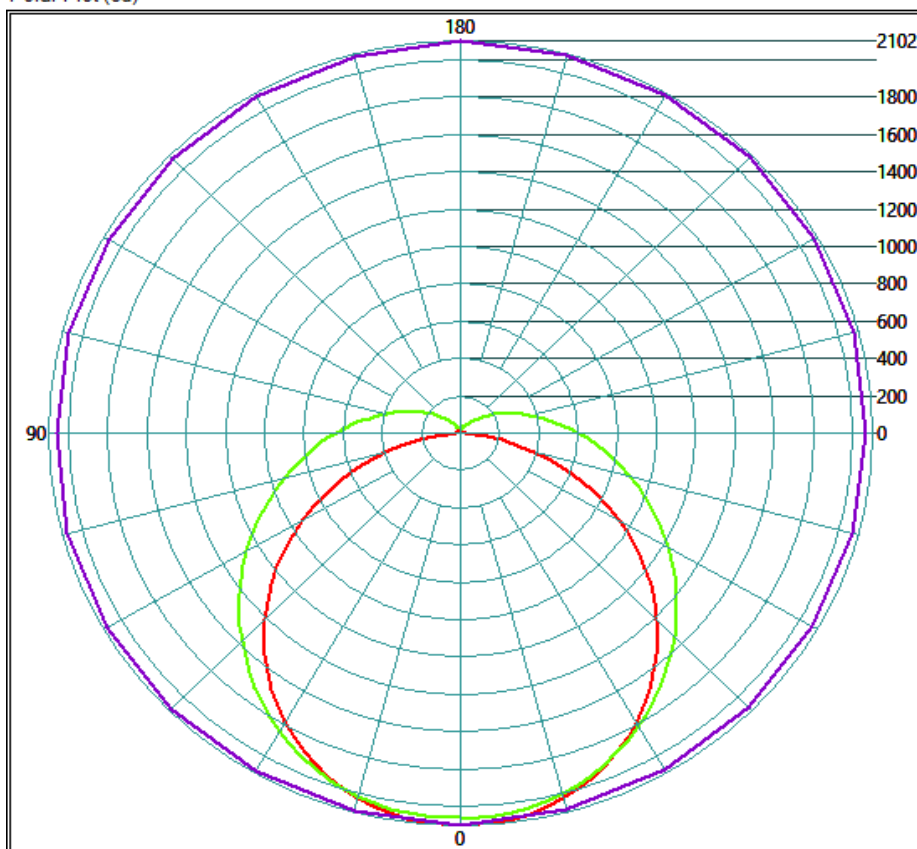
NOTE - these dimensions may not be the same as IES/LDT file due to product geometry for best use in lighting design software

Electrical Measurements	
Frequency	50 Hz
Voltage	230 V
Current	0.214 A
Power	48.2 W
Power Factor	0.978
Apparent Power	49.2 VA

### Goniophotometric Measurements

Beam Angle	Horizontal	137°
	Vertical	113°
On-axis Intensity		2099 cd
Peak Intensity		2102 cd
Peak Direction	Horizontal	360°
	Vertical	0°

Polar Plot (cd)



Mounting Height (m)	Beam Width (m)		Projected Illuminance (lux)
	C0-C180 plane	C90-270 plane	
0.5	2.6	1.5	8397
1	5.1	3.0	2099
2	10.2	6.0	525
3	15.3	9.0	233
4	20.5	12.1	131
5	25.6	15.1	84
7.5	38.4	22.6	37
10	51.1	30.2	21
20	102.3	60.3	5

## Appendices & non-accredited results

### Colorimetric Measurement Results

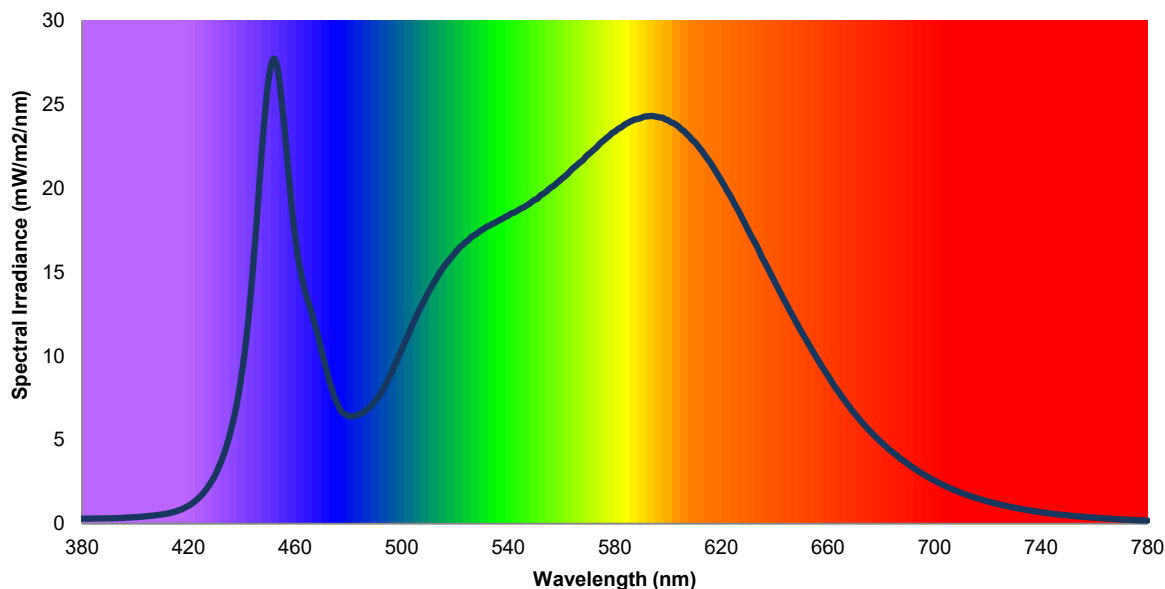
#### *Obtained via On-axis Spectral Measurement*

The following data was determined from an on-axis spectral measurement using a Gooch & Housego OLI770 spectrometer at a distance of 15.4m. Angle of mirror where spectrum is measured is 0 degrees. Results may differ if compared to spatially averaged colourimetric result (e.g. measured in an integrating sphere).

LM79 requires spatially averaged colourimetric results (i.e. from a sphere, or from a full gonio colourimetric scan). The colourimetric results in this report do not follow those requirements.

BS (EN) 13032 and CIE S025 do not state this requirement. Compliance with these standards is observed.

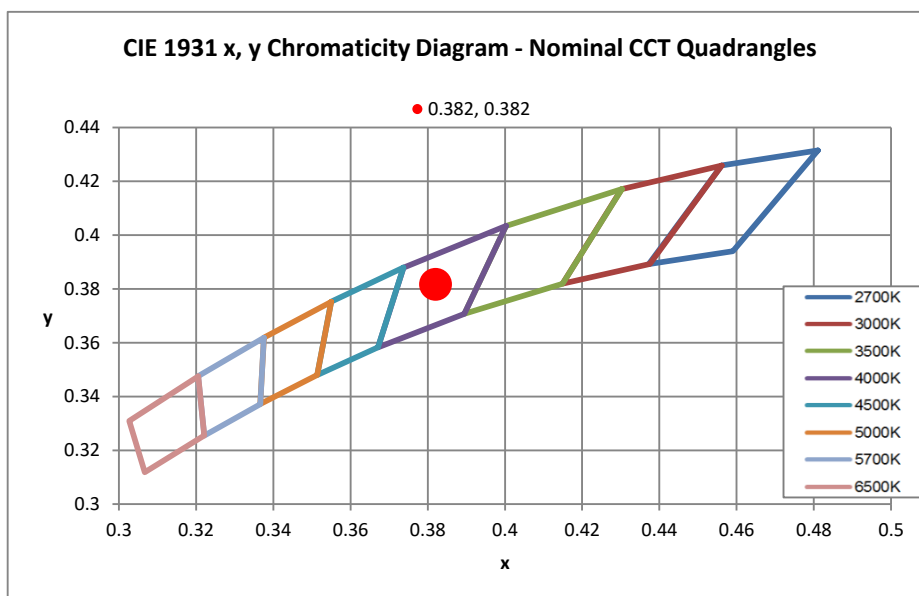
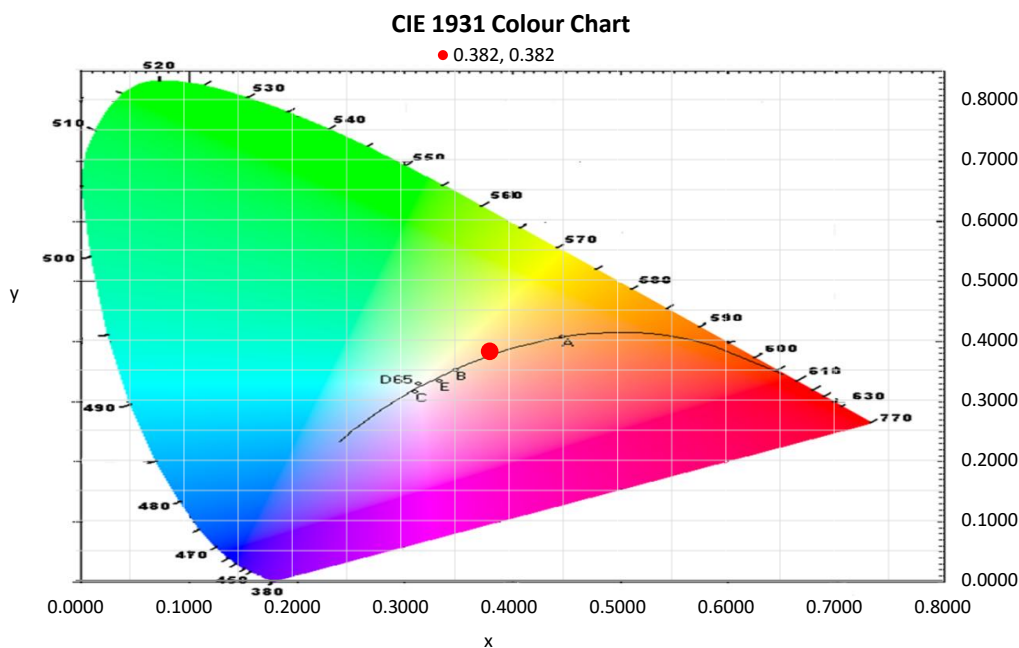
#### Spectral Irradiance versus Wavelength



Colour Rendering Index Detail			
R1	79	R8	61
R2	88	R9	-1
R3	94	R10	71
R4	80	R11	79
R5	79	R12	57
R6	83	R13	82
R7	85	R14	97

Colorimetric Details	
CCT	3993K
CRI (Ra)	81

Chromaticity Coordinates		
CIE 1931	x	0.3820
	y	0.3817
CIE 1960	u	0.2242
	v	0.3360
CIE 1976	u'	0.2242
	v'	0.5040
Duv		0.0018



### Spectral Power Distribution

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
380	3.04E-01
381	3.03E-01
382	3.02E-01
383	3.03E-01
384	3.08E-01
385	3.13E-01
386	3.11E-01
387	3.15E-01
388	3.14E-01
389	3.22E-01
390	3.20E-01
391	3.18E-01
392	3.28E-01
393	3.30E-01
394	3.39E-01
395	3.44E-01
396	3.57E-01
397	3.71E-01
398	3.67E-01
399	3.82E-01
400	3.88E-01
401	4.01E-01
402	4.14E-01
403	4.25E-01
404	4.45E-01
405	4.59E-01
406	4.71E-01
407	4.92E-01
408	5.11E-01
409	5.31E-01
410	5.49E-01
411	5.83E-01
412	6.03E-01
413	6.39E-01
414	6.86E-01
415	7.23E-01
416	7.81E-01
417	8.34E-01
418	9.02E-01
419	9.93E-01
420	1.07E+00
421	1.17E+00
422	1.29E+00
423	1.42E+00
424	1.57E+00
425	1.73E+00
426	1.92E+00
427	2.13E+00
428	2.37E+00
429	2.62E+00

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
430	2.90E+00
431	3.26E+00
432	3.63E+00
433	4.04E+00
434	4.50E+00
435	5.04E+00
436	5.66E+00
437	6.28E+00
438	7.06E+00
439	7.96E+00
440	8.98E+00
441	1.01E+01
442	1.15E+01
443	1.31E+01
444	1.49E+01
445	1.69E+01
446	1.90E+01
447	2.12E+01
448	2.32E+01
449	2.50E+01
450	2.64E+01
451	2.73E+01
452	2.77E+01
453	2.74E+01
454	2.65E+01
455	2.51E+01
456	2.36E+01
457	2.18E+01
458	2.01E+01
459	1.85E+01
460	1.71E+01
461	1.59E+01
462	1.50E+01
463	1.43E+01
464	1.37E+01
465	1.32E+01
466	1.27E+01
467	1.21E+01
468	1.15E+01
469	1.09E+01
470	1.03E+01
471	9.62E+00
472	9.01E+00
473	8.43E+00
474	7.92E+00
475	7.43E+00
476	7.11E+00
477	6.77E+00
478	6.61E+00
479	6.50E+00

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
480	6.43E+00
481	6.40E+00
482	6.42E+00
483	6.46E+00
484	6.53E+00
485	6.58E+00
486	6.69E+00
487	6.81E+00
488	6.94E+00
489	7.11E+00
490	7.30E+00
491	7.50E+00
492	7.72E+00
493	8.01E+00
494	8.33E+00
495	8.63E+00
496	8.94E+00
497	9.31E+00
498	9.66E+00
499	1.00E+01
500	1.04E+01
501	1.07E+01
502	1.11E+01
503	1.15E+01
504	1.19E+01
505	1.22E+01
506	1.26E+01
507	1.29E+01
508	1.32E+01
509	1.35E+01
510	1.38E+01
511	1.41E+01
512	1.44E+01
513	1.46E+01
514	1.49E+01
515	1.51E+01
516	1.54E+01
517	1.56E+01
518	1.58E+01
519	1.59E+01
520	1.61E+01
521	1.63E+01
522	1.65E+01
523	1.66E+01
524	1.68E+01
525	1.69E+01
526	1.71E+01
527	1.72E+01
528	1.73E+01
529	1.74E+01

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
530	1.75E+01
531	1.76E+01
532	1.77E+01
533	1.78E+01
534	1.79E+01
535	1.79E+01
536	1.80E+01
537	1.81E+01
538	1.82E+01
539	1.83E+01
540	1.84E+01
541	1.85E+01
542	1.85E+01
543	1.86E+01
544	1.87E+01
545	1.88E+01
546	1.89E+01
547	1.90E+01
548	1.91E+01
549	1.92E+01
550	1.93E+01
551	1.94E+01
552	1.96E+01
553	1.97E+01
554	1.98E+01
555	1.99E+01
556	2.00E+01
557	2.01E+01
558	2.03E+01
559	2.04E+01
560	2.06E+01
561	2.07E+01
562	2.08E+01
563	2.10E+01
564	2.11E+01
565	2.13E+01
566	2.14E+01
567	2.16E+01
568	2.17E+01
569	2.19E+01
570	2.20E+01
571	2.21E+01
572	2.23E+01
573	2.24E+01
574	2.26E+01
575	2.27E+01
576	2.29E+01
577	2.30E+01
578	2.31E+01
579	2.33E+01
580	2.34E+01

### Spectral Power Distribution

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
581	2.35E+01
582	2.36E+01
583	2.37E+01
584	2.38E+01
585	2.39E+01
586	2.40E+01
587	2.41E+01
588	2.41E+01
589	2.41E+01
590	2.42E+01
591	2.43E+01
592	2.43E+01
593	2.43E+01
594	2.43E+01
595	2.43E+01
596	2.43E+01
597	2.42E+01
598	2.42E+01
599	2.41E+01
600	2.41E+01
601	2.39E+01
602	2.39E+01
603	2.38E+01
604	2.37E+01
605	2.35E+01
606	2.34E+01
607	2.32E+01
608	2.31E+01
609	2.29E+01
610	2.28E+01
611	2.26E+01
612	2.24E+01
613	2.22E+01
614	2.19E+01
615	2.17E+01
616	2.15E+01
617	2.12E+01
618	2.10E+01
619	2.07E+01
620	2.05E+01
621	2.02E+01
622	1.99E+01
623	1.96E+01
624	1.94E+01
625	1.90E+01
626	1.88E+01
627	1.85E+01
628	1.82E+01
629	1.79E+01
630	1.75E+01

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
631	1.72E+01
632	1.69E+01
633	1.66E+01
634	1.63E+01
635	1.60E+01
636	1.57E+01
637	1.54E+01
638	1.51E+01
639	1.47E+01
640	1.44E+01
641	1.41E+01
642	1.38E+01
643	1.35E+01
644	1.32E+01
645	1.29E+01
646	1.26E+01
647	1.23E+01
648	1.20E+01
649	1.17E+01
650	1.15E+01
651	1.12E+01
652	1.09E+01
653	1.06E+01
654	1.04E+01
655	1.01E+01
656	9.84E+00
657	9.58E+00
658	9.31E+00
659	9.07E+00
660	8.82E+00
661	8.58E+00
662	8.32E+00
663	8.07E+00
664	7.86E+00
665	7.63E+00
666	7.42E+00
667	7.20E+00
668	6.99E+00
669	6.77E+00
670	6.58E+00
671	6.38E+00
672	6.19E+00
673	6.02E+00
674	5.83E+00
675	5.66E+00
676	5.49E+00
677	5.33E+00
678	5.16E+00
679	5.02E+00
680	4.86E+00

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
681	4.71E+00
682	4.57E+00
683	4.43E+00
684	4.30E+00
685	4.18E+00
686	4.05E+00
687	3.91E+00
688	3.80E+00
689	3.69E+00
690	3.56E+00
691	3.46E+00
692	3.34E+00
693	3.24E+00
694	3.13E+00
695	3.04E+00
696	2.93E+00
697	2.84E+00
698	2.75E+00
699	2.65E+00
700	2.58E+00
701	2.49E+00
702	2.40E+00
703	2.33E+00
704	2.25E+00
705	2.18E+00
706	2.11E+00
707	2.04E+00
708	1.97E+00
709	1.91E+00
710	1.85E+00
711	1.78E+00
712	1.73E+00
713	1.67E+00
714	1.62E+00
715	1.57E+00
716	1.52E+00
717	1.46E+00
718	1.42E+00
719	1.38E+00
720	1.33E+00
721	1.29E+00
722	1.24E+00
723	1.21E+00
724	1.17E+00
725	1.12E+00
726	1.09E+00
727	1.06E+00
728	1.02E+00
729	9.91E-01
730	9.60E-01

$\lambda$ (nm)	mW/m <sup>2</sup> /nm
731	9.26E-01
732	8.92E-01
733	8.68E-01
734	8.37E-01
735	8.06E-01
736	7.86E-01
737	7.60E-01
738	7.27E-01
739	7.12E-01
740	6.86E-01
741	6.63E-01
742	6.38E-01
743	6.27E-01
744	6.02E-01
745	5.82E-01
746	5.62E-01
747	5.42E-01
748	5.27E-01
749	5.10E-01
750	5.00E-01
751	4.77E-01
752	4.64E-01
753	4.49E-01
754	4.35E-01
755	4.20E-01
756	4.05E-01
757	3.98E-01
758	3.81E-01
759	3.68E-01
760	3.60E-01
761	3.45E-01
762	3.36E-01
763	3.27E-01
764	3.14E-01
765	3.07E-01
766	2.96E-01
767	2.86E-01
768	2.80E-01
769	2.67E-01
770	2.57E-01
771	2.53E-01
772	2.44E-01
773	2.36E-01
774	2.28E-01
775	2.20E-01
776	2.15E-01
777	2.06E-01
778	1.99E-01
779	1.97E-01
780	1.88E-01



---

### Measurement Uncertainty

The following is the reported expanded uncertainty of the UL 6440T Type C Mirror Goniophotometer.

Parameter	Equipment Ref	Uncertainty
Total Luminous Flux (%)	NA	$\pm 6.47$
Luminous Intensity (%)	NA	$\pm 6.47$
Temperature (°C)	LX1019GC	$\pm 0.13$
Voltage DC TY720 (%)	LX1008GC	$\pm 0.017$
Current DC TY720 (%)	LX1012SP	$\pm 0.670$
Voltage AC WT210 (%)	LX1003GC	$\pm 0.15$
Current AC WT210 (%)	LX1003GC	$\pm 0.13$
Power AC WT210 (%)	LX1003GC	$\pm 0.27$
Frequency (50/60 Hz) WT210 (%)	LX1003GC	$\pm 0.002$

The reported expanded uncertainty is based on the combined standard uncertainty multiplied by a coverage factor of  $k = 2$ . This value of  $k$  gives a coverage probability of approximately 95%, assuming a normal distribution. This determination of the measurement uncertainty has been done in accordance with international requirements including UKAS, BIPM Guide to the Expression of Uncertainty in Measurement and CIE 198:2011 and CIE S 025/E:2015.

Electrical measurement equipment used for the determination of results for this report, are compliant and meet the performance requirements of the measurement standards used.

----- END OF REPORT -----